Profile of the British Columbia High Technology Sector

A joint project of BC Stats and Leading Edge BC

2004 Edition

BRITISH COLUMBIA
Service BC
Ministry of Management Services

LeadingEdge BRITISH COLUMBIA

BC STATS

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April 2005

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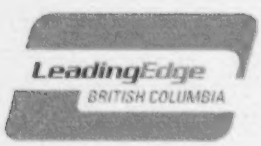

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- Working with multiple partners to assist companies market their products and services.
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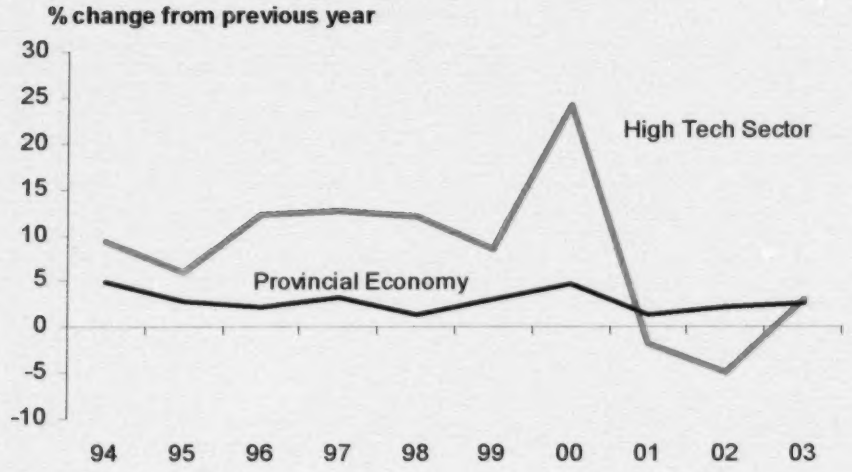
Executive Summary

After two years of decline, British Columbia's high technology[1] sector started to rebound in 2003, with high tech GDP expanding 3.0% from the level achieved in 2002, rising to just under $3.6 billion (1997 constant dollars). The high tech service sector continued to fare well, with GDP climbing 2.2%, the fourth straight year of growth, but it was the manufacturing sector where the real turnaround occurred. After two years of double-digit declines high tech manufacturing GDP jumped 4.5% in 2003.

British Columbia's high technology sector GDP has bounced back after slumping for two years



On the whole, British Columbia's high technology sector has significantly outpaced the overall economy in terms of GDP growth in every year in the last decade with the exception of 2001 and 2002. On average, high tech sector GDP has expanded almost three times as fast as the province's overall GDP from 1993 to 2003. The high tech sector accounted for 2.9% of British Columbia's GDP in 2003.

Employment in high technology industries, which slumped 3.6% a year earlier, also recovered in 2003, rising 2.7%. However, the growth was all on the strength of new hires in the service sector where employment jumped 6.0%. The number of jobs in high technology manufacturing fell 4.4%. Increased output coupled with re-

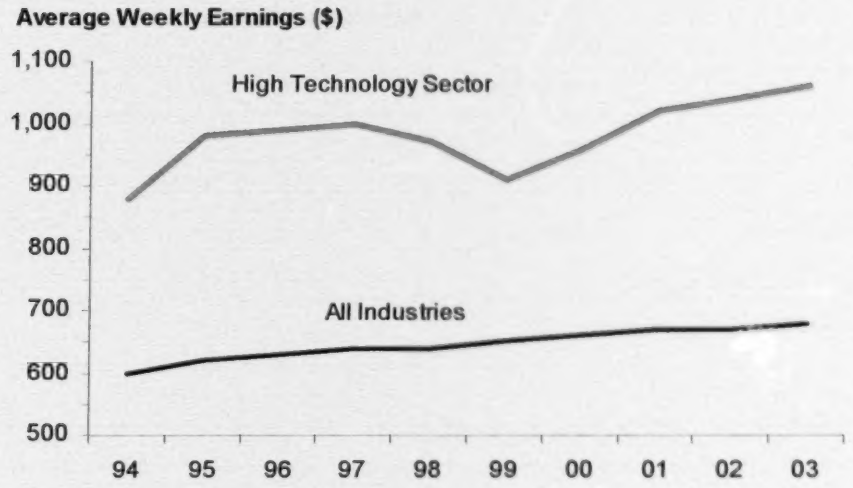
[1] See Appendix A for an industry-based definition of the high technology sector. Appendix B describes a commodity-based definition used to measure high tech trade.

duced employment levels indicates that productivity improved in the high tech manufacturing sector, halting a two-year slide.

High tech sector revenues also saw growth in 2003, climbing 3.8% to $6.3 billion. Once again, services led the way, posting an increase of 8.2%, while manufacturing revenues fell for the third straight year, slipping 4.3%.

Wages and salaries paid by BC high tech industries reached $2.5 billion in 2003, a 5.1% jump over the previous year. At $1,060, average weekly earnings in the high tech sector significantly exceed the overall BC average weekly wage rate of $680.

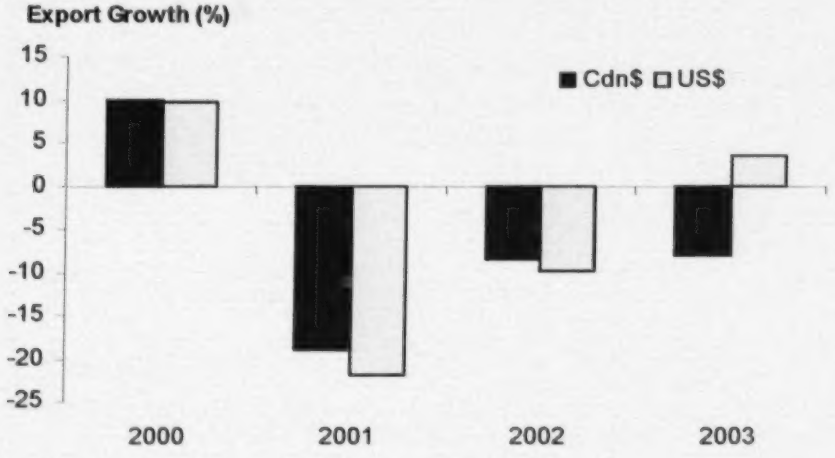
Wages in high technology industries are far higher than the average for all industries in the province



The regional distribution of high technology businesses tends to reflect the population distribution of the province with more establishments in areas with higher population. In total, there were 5,389 establishments with paid employees in the high tech sector in 2003. This represents a marginal 0.8% increase over the previous year. About 85% of these establishments were in the service sector. There were an additional 7,741 establishments with no employee payroll (which can be seen as a proxy for the number of self-employed people with no paid help) in the high technology sector, bringing the total number of high tech establishments to 13,130 in 2003. Once again, most of these self-employed people worked in the service sector. Although establishments in the service sector heavily outnumber those in manufacturing industries, they tend to have fewer employees.

International trade is an important aspect of the high technology sector, as reflected in the high volume of two-way trade. While GDP, revenue and employment in BC's high tech sector showed signs of recovery in 2003, the value of exports of high technology goods continued to decline, dropping 8.2% to $628.5 million. However, unlike the previous two years when the drop in exports was due to a fall in demand for high tech products, the weaker performance in 2003 was mainly the result of the rapid appreciation of the Canadian dollar. When valued in American currency, BC high technology exports actually increased 3.4%. The same was true for imports, which fell 7.8% when valued in Canadian dollars, but climbed 3.6% when converted to American currency.

The drop in the value of BC high tech exports in 2003 was mainly due to the rapid appreciation of the Canadian dollar



Even though exports and imports fell at about the same pace in 2003, the absolute decline in imports was larger, which resulted in a significant improvement in BC's high tech trade balance, or, in other words, a decline in the trade deficit.

The largest category of high tech commodity exports is computers and telecommunications, followed by life sciences products, which are mainly comprised of medical equipment. These are also the top imported high tech goods. The United States is by far the most significant destination for BC high tech commodity exports with 80.0% of the goods shipped there. By comparison, only 8.0% of BC's high tech goods are shipped to the European Union and 6.4% to Pacific Rim countries. The United States is also the top origin of imports of high tech goods into BC, but the distribution is much less concentrated as only 46.2% of high tech imports come from the United

States, while the European Union is the origin of another 14.8% and the Pacific Rim ships 28.4% of the high tech goods destined for BC.

Compared with the rest of Canada, British Columbia's high technology sector generally ranks fourth behind Quebec, Ontario and Alberta in most measures of size and performance. In 2003, BC's high tech sector recorded the strongest improvement among the provinces, ranking first in GDP growth after having suffered through the poorest performance among the top four provinces a year earlier. BC also had the highest increase in high tech revenues and employment and, despite an 8.2% decline in exports, still fared better than most provinces on the trade front as well.

Nevertheless, BC's high technology sector is still underdeveloped relative to other jurisdictions, particularly many US states. For example, it is small in comparison to other Pacific Northwest regions such as Washington State and Oregon. However, high tech in BC has undergone rapid expansion in the last decade and there is no reason to suspect that it will not continue to grow. The high technology sector, by its nature, is constantly in a state of flux, with new products coming online regularly. High technology is becoming more prevalent in many "traditional" industries, such as forestry, mining and agriculture and will likely continue to have a more significant presence in those and other sectors. Given the importance of high technology products in today's world and the combination of lucrative revenues and well-paid employment offered by high tech, there is little doubt that the sector will continue to attract attention in British Columbia and elsewhere.

Introduction

The BC high technology sector

Technological advancements in the last two hundred years, or even the last couple of decades, have dramatically altered our economic and social landscape. As such, the role of technology in the economy is clearly a vital area of study. The *Profile of the High Technology Sector* is part of an ongoing project to monitor the growth and evolution of the high technology sector in British Columbia by evaluating the economic contribution of firms in the province that produce high technology goods and services. The key indicators examined include gross domestic product, revenue, employment, wages and salaries, establishment counts and international trade.

The designation of a high technology sector among the other industrial sectors of the economy provides a very useful analytic tool. This is based on the premise that high technology firms behave in a way that allows them to be understood as a group, and that programs or policies can be tailored to their needs.

Defining high technology

High technology is a phrase that everybody has heard and something that everybody seems to agree is important, but what exactly is it? There are numerous possible methods of defining high technology and many different definitions in use around the world. The *Profile* report uses two different definitions—one that is industry-based and another that is commodity-based—to measure, respectively, high tech's contribution to the British Columbia economy and the volume of international trade in high technology goods.

Since the inception of the *Profile* reports in 1996, the statistics on the high technology sector have been built up from information about sub-industries, mostly obtained from Statistics Canada. These sub-industries, such as Aerospace or Engineering Services, are categories developed and maintained by Statistics Canada. The categories can become out of date and are revised approximately every ten years. The data collection system is then converted to the new categories, a process that takes several years.

The latest system of categories (NAICS – the North American Industry Classification System) was developed in 1997. The adoption of NAICS-based industry definitions made it necessary to revisit the definition on which the high-tech estimates were based, since many of the industry groupings previously used were no longer available. During 2001, BC Stats developed a new definition of the high technology sector that was based on NAICS industry catego-

ries. The process of developing the criteria for including or excluding specific industries in the definition is described in detail in a paper that can be found on the BC Stats website at:

www.bcstats.gov.bc.ca/pubs/bcbi/bcbi0107.pdf.

The definition originally chosen (based on the theoretical considerations described in the paper) proved to be only a starting point, as much of the information required to compile high technology statistics was not available at the required level of detail. A working definition, based on availability of data, was adopted in order to prepare the estimates presented in this report. Since the development of the high tech definition a more broadly-based view of high technology has evolved, which encompasses some industries not considered high tech just a few years ago, such as various communications technologies. As such, BC Stats is looking into the possibility of refining its high technology definition, perhaps for inclusion into the 2005 edition of this report.

BC Stats definition of high technology is British Columbia-based

It should be noted that the high technology definition used by BC Stats is a British Columbia-based classification and that some high technology industries that are not present in British Columbia, but may be prevalent elsewhere, may be excluded from the data presented in this report.

The industry-based definition includes pharmaceutical and other chemical manufacturers, computer and other electronic industries, the aerospace sector, producers of medical equipment and supplies, and providers of information, engineering and computer services. For more discussion on the industry-based definition, including a table listing the industries included in BC Stats' high technology definition, see Appendix A, "Defining the High Technology Sector."

While an industry-based definition makes sense when examining high technology GDP or employment, it is not really appropriate for looking at trends in high tech commodity exports and imports. For this purpose, a second, commodity-based, definition was developed. This definition was constructed using harmonized system codes, which are the commodity classification codes used in Canadian customs documents. The list of commodities to be classified as high technology was based on the US Bureau of the Census' advanced technology products (ATP) list, which has been established for quite some time and is a recognized definition of high technology goods. Since Canadian and American commodity codes are identical only at the six-digit level and Canadian export codes are eight digits and import codes are ten digits, it was necessary to do some conversion. As a result, the final definition may not be com-

pletely identical to that used in the United States; however, it should be reasonably similar such that broad comparisons can be made.

For more detail on the commodity-based definition and a brief description of the ATP categories, see Appendix B, "Defining High Technology Commodities."

New to this year's edition

In addition to a new look and feel, this year's edition of the *Profile* also has some additional content. There has been more data added for other provinces, as well as the Canadian total for some of the data variables and data for the United States has been added to enable better comparisons and give an indication of the British Columbia high technology sector's relative performance compared to other jurisdictions.

This report includes the latest information available as of February 2005. All data in this paper refer to the calendar year 2003 except exports of high technology services, which are not yet available for 2003 and some of the data for the United States, which are not all available for 2003.

It should be noted that the data included in these annual reports contain revisions, such that data for previous years that have been published in earlier reports may be different from those contained in this report. The revisions for some variables in this year's report were substantial due mainly to methodological changes to Statistics Canada's Annual Survey of Manufacturers, which is the source of a considerable portion of the high tech data. There were also significant revisions to the GDP benchmarks from Statistics Canada. These benchmark estimates, which are also based on the new survey data, resulted in an upward revision of data for goods industries, particularly in the post-2000 period. In the service sector, estimated GDP figures for some industries are considerably lower than was previously published. Finally, with the annual revisions to the data, the methodology used to estimate GDP and revenues was reviewed, and some refinements were introduced.

Readers should note that graphs and text in this publication deal only with the highlights of the information that has been collected. The data tables in the final sections contain additional detail that can prove valuable. These tables extend from 1993 to 2003.

Profile and Trends

Just a few years ago, high technology was riding an unprecedented wave of popularity. Initial public offerings of various "dotcom" enterprises were garnering a great deal of attention and the stock market was soaring on the basis of the interest in those companies. The build-up of expenditures by various industries on new technologies, as well as software fixes and security in anticipation of the Y2K bug, helped fuel interest in new high tech companies and the sector grew at phenomenal rates that were not sustainable over the long-term. The market became saturated and it wasn't long before investors that had been attracted by the allure of high tech woke up to the fact that many of the dotcoms were lacking business plans and were poorly positioned to make a profit. Inevitably, the enthusiasm for dotcoms waned and the high tech bubble burst.

While British Columbia's high tech industry was somewhat sheltered from the dotcom crash, it did suffer indirectly from the fallout. The consequences of the downturn were severe and likely were the leading edge of the economic decline in the United States and Canada. Subsequent events, such as the terrorist attacks of September 11, 2001, the wars in Afghanistan and Iraq, the skyrocketing price of oil, the SARS epidemic and other natural disasters have all contributed to falling demand for manufactured goods. This is clearly reflected in the revenue and trade figures for high technology manufacturers. Oddly enough, high tech services have not missed a beat, experiencing strong growth over the last several years at the same time the manufacturing sector was floundering. This seems to indicate that while the dotcom implosion might have affected investor confidence in high tech stocks, it did not dampen the enthusiasm for high technology.

BC high tech services have experienced robust growth while the goods sector has been struggling

High tech manufacturing and services have been headed in opposite directions

Throughout this report, there are two types of industries examined: service and manufacturing industries. High tech service industries—computer and engineering services, and information services—do not make a tangible good.[2] Instead they provide expertise, such as software creation, information technology system management, the planning and design of a bridge, or the analysis of a

[2] Note that the high tech services definition used in this report is limited by the availability of data for some service industries. A more comprehensive definition would be used if it were possible to report at that level of detail.

of a blood sample for medical diagnosis. Manufacturing industries are those that take raw materials, or the products made by other manufacturing industries, and make new products. High technology firms include those involved in manufacturing of aircraft, computer and related products and pharmaceutical goods, just to name a few.

The divergent paths of the high tech manufacturing and service sectors are highlighted in virtually every major measurement indicator. Gross domestic product, revenue, and exports of high tech goods industries all experienced declines in 2001 and 2002, while in the service sector, there was robust growth in almost all these measures, with the exception of exports, which dropped significantly in 2002. Although high tech employment fell for both manufacturing and service industries in 2002, the drop was more significant for the manufacturing sector.

This contrast of fortunes appears to be more or less uniform across the country and is also consistent with trends in the manufacturing and service sectors as a whole. In fact, similar data from the United States indicate that this phenomenon is not restricted to Canada. It appears that the multitude of shocks that have occurred over the last few years have inflicted damage disproportionately upon the manufacturing sector compared to the service sector.

For British Columbia high tech, the strong performance in the service sector has at least partially offset the declines in the goods sector. There were some signs in 2003 that the high tech manufacturing sector may be on the rebound.

High tech sector GDP showed robust growth in 2003

Gross domestic product (GDP) is a measure of value added, which is essentially the difference between the cost of the material inputs and purchased services used in production and the price at which a good or service is sold. GDP can be reported using either current or constant dollars. Constant dollar, or real, GDP is the best measure for understanding and illustrating trends over time. Constant dollar figures have been adjusted to remove the effect of price changes (i.e., inflation and deflation) over time. This means that constant dollar values can be viewed as measures of the actual value added, or net output, of an industry.

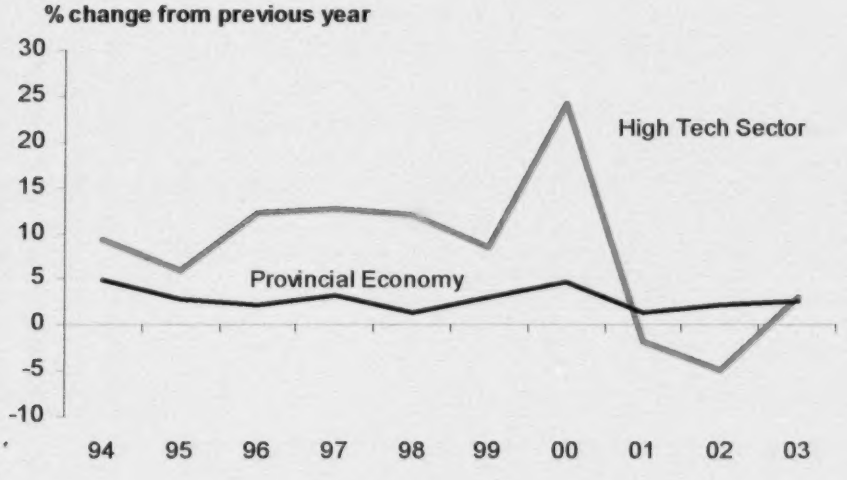
After two straight years of decline, high technology GDP experienced robust growth of 3.0% from 2002 to 2003, climbing to almost

$3.6 billion.[3] GDP in the service sector expanded for the fourth straight year, climbing 2.2% from the value posted in 2002. Meanwhile, GDP in the high tech manufacturing sector grew 4.5% in 2003 after having suffered double-digit declines in each of the previous two years. High tech manufacturing outperformed British Columbia's manufacturing sector as a whole, which had 3.3% growth.

BC high tech GDP climbed 3.0% in 2003 to almost $3.6 billion

On the whole, British Columbia's high technology sector has significantly outpaced the overall economy in terms of GDP growth in every year in the last decade with the exception of 2001 and 2002. On average, high tech sector GDP has expanded almost three times as fast as the province's overall GDP from 1993 to 2003.

Over the last decade, high tech GDP growth has generally outperformed the BC economy **Figure 1**



Despite the rapid growth, the high tech sector remains a relatively small part of the total BC economy. In 2003, high technology industries generated about three percent of the provincial GDP and, as will be shown later in this report, a similar share of total employment and overall exports. Sectors of similar size to high technology include the agriculture and related industries and accommodation and food services. The financial, insurance and real estate and leasing sector (including owner-occupied dwellings) generates the greatest contribution, with 23.6% of GDP. At 7.6% of GDP, BC's

High tech comprises about three percent of British Columbia's GDP

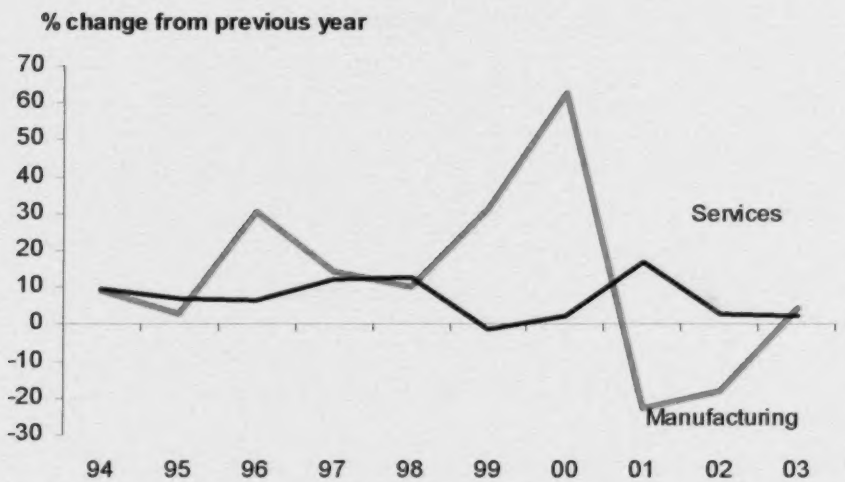
[3] All GDP figures quoted in this paper are in 1997 constant dollars unless otherwise stated.

forest sector (including manufacturing of forest products) was the largest goods-producing industry. Compared to other jurisdictions (see page 31 for comparisons to other provinces and to the United States), the industry in BC is still rather small. Nevertheless, high tech is an important and growing sector in the BC economy.

Services constitute the bulk of high tech GDP in BC

Unlike Canada as a whole, where high tech manufacturing is on par with high tech services and even has a slight edge, in BC, services make up the large majority of high tech output. In 2003, about two-thirds (67%), or $2.4 billion of BC's high tech GDP was comprised of services. By comparison, high technology goods generated just shy of $1.2 billion in GDP. Whereas high tech manufacturing GDP experienced two straight years of double-digit decline in 2001 and 2002, services have grown in each year of the last decade with the exception of a slight dip in 1999. Growth in the services sector has helped offset the declines in manufacturing.

Figure 2 **Growth in GDP for high tech services has helped offset declines in high tech manufacturing**



Most of the drop in GDP of high tech manufacturing was due to the declining fortunes of manufacturers of computers and other electronic products, which saw GDP declines in excess of 20 percent in both 2001 and 2002. In 2003, there were signs that this sector has managed to turn the corner with a modest increase in GDP.

BC GDP, 2003
(constant 1997 dollars)

	$million	% change
Manufacturing	1,154	4.5
Services	2,396	2.2
High Tech Total	**3,550**	**3.0**
BC Total	**121,203**	**2.5**

Compared to other standard industry sectors, high technology in British Columbia has performed quite well over the last decade, ranking as one of the fastest growing sectors in the provincial economy. The only years where this was not the case were in 2001 and 2002, but in 2003, it appears that high technology is once again among the top performers.

High tech employment rebounded in 2003

After slipping 3.6% in 2002, employment[4] in the high tech sector in BC climbed 2.7% in 2003, all on the strength of new hires in the service sector (+6.0%), as employment in high tech manufacturing fell (-4.4%). Total high technology employment in British Columbia reached 45,030 in 2003, with high tech services responsible for over two-thirds of this figure. The 31,810 people working in high tech services were an all-time high, although the 13,220 people working in the goods sector were well below the peak of 15,180 reached in 2001.

High tech employment in BC grew 2.7% to over 45,000 in 2003

The opposite movement of services versus manufacturing employment is reflective of the workforce as a whole where goods-producing industries have experienced employment declines in the last few years, while service industries have continued to increase the number of employees on their payrolls. This trend has not been restricted to BC, but rather has been experienced throughout North America. Much of this decline in manufacturing employment across the continent can be attributed to gains in productivity that

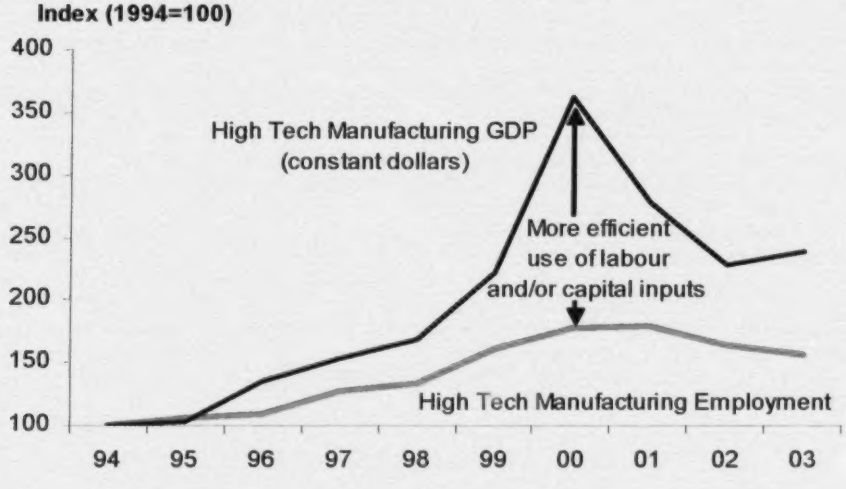
[4] The measure of employment used in this report is based on Statistics Canada's Survey of Employment, Payroll and Hours (SEPH). This employer survey provides a wealth of detail about employment, wages and hours in a large number of industries. However, because it is an employer survey, the SEPH data does not include self-employed workers and workers in commercial fishing, agriculture and some services.

The data from SEPH give an average number of workers in an industry through the course of the year. If an industry is highly seasonal, the peak number of workers is offset by those months where there are fewer workers. A full-time worker is accorded equal status with a part-time worker. No attempt is made to measure the number of "person years" or "full-time equivalents."

have not been accompanied by increased demand for goods. In other words, manufacturers have been able to increase output per employee, but demand for output has not increased; therefore, fewer employees are needed to produce the required amount of goods.

The BC high tech manufacturing sector has achieved significant productivity gains over the last decade as real GDP more than doubled, while employment grew at a much slower pace. However, when the high tech bubble burst in 2001 and manufacturing GDP took a nosedive, there were not matching reductions in employment, which resulted in declining productivity in 2001 and 2002. Productivity in high tech manufacturing improved in 2003 as employment edged down while GDP grew.

Figure 3 **High tech manufacturing employment did not decline with output, which resulted in falling productivity**



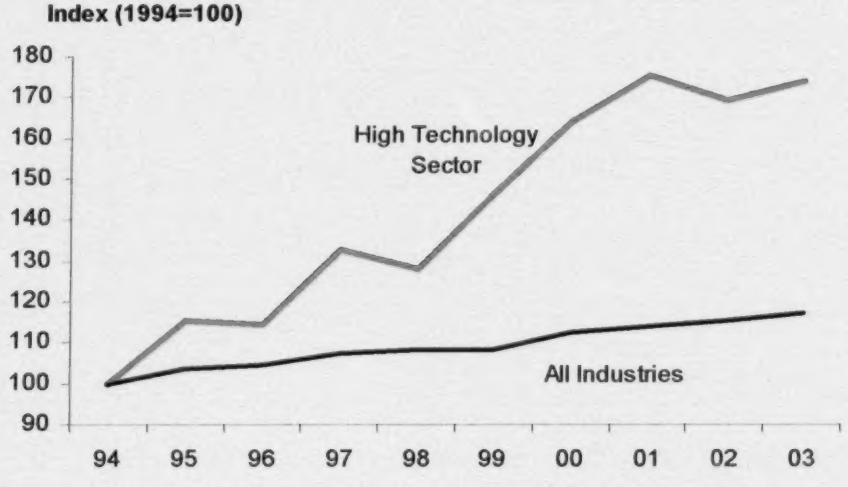
The high tech service sector in BC has also experienced some productivity gains, but not nearly as significant as those in the manufacturing sector. Reversing the trend in the manufacturing sector, high tech service industries in BC improved their output per worker in 2001 and 2002, but saw productivity slip in 2003.

BC Employment, 2003

	Workers	% change
Manufacturing	13,220	-4.4
Services	31,810	6.0
High Tech Total	**45,030**	**2.7**
BC Total	**1,636,780**	**1.6**

Between 1993 and 2003, employment in high tech services jumped 89% in BC, compared to 31% growth in high tech manufacturing employment. Total high technology employment in BC has grown at a pace far exceeding that of employment over all industries. In 1993, those employed in high technology represented 2.0% of the BC workforce. By 2003, 2.8% of BC workers were employed in high technology. The number of people employed by the high technology sector almost equalled total government employment in the province in 2003. It was also similar to total employment in forest product manufacturing.

High technology employment has outpaced total employment over the last decade **Figure 4**



Much of the high technology employment growth occurred in the computer systems design service sector, where employment expanded over two and a half times the 6,420 workers recorded in 1993, to 16,610 in 2003. Information services also experienced substantial growth, almost tripling (+189%) from 1993 to 2003. In the manufacturing sector, jobs in aerospace grew the fastest, increasing 69% over the last decade. The computer and other electronics industries have also experienced strong growth in the last ten years, although these industries were also responsible for the majority of the high tech job losses over the last few years. High tech employment in these industries jumped substantially between 1994 and 2000, the year when employment in this sector hit its peak, but has slipped 18% since then.

High technology revenue rebounded significantly in 2003

Revenue is the amount of money earned from the sale of goods or services by producers in an industry. It is a measure of the monetary value of an industry's goods and services, and in the manufacturing sector, is measured through the value of shipments. Revenue includes the cost of the inputs necessary to make the goods or services, while GDP is the amount remaining after all costs (except labour costs) have been paid.

After dropping 6.7% a year earlier, high technology revenues in British Columbia rebounded in 2003, with growth of 3.8%, rising to $6.3 billion. Receipts from the high tech service industries have been driving overall high tech revenue over the past few years and 2003 was no exception as revenue for high tech services climbed 8.2%. In contrast, revenue for high tech manufacturing fell 4.3%, the third consecutive year of decline after robust growth through most of the 1990s.

High tech revenue rebounded in 2003, rising 3.8% to $6.3 billion

Manufacturers of computers and other electronics have seen their revenues fall 43.5% from 2000 to 2003. The aerospace industry, which had been one of the bright spots in high tech manufacturing over the last couple of years, also experienced a significant drop in 2003, with revenues sliding 10.0%.

In the service sector, both information services (+17.2%) and computer systems design (+9.8%) industries experienced substantial revenue growth. Revenues in the engineering industry (+0.5%) were relatively flat.

High tech wages and salaries continued to climb in 2003

Wages and salaries[5] in the high technology sector in British Columbia bounced back in 2003, climbing 5.1% from the pay doled out in 2002 after experiencing a 1.8% drop a year earlier. This is well above the rate of growth of wages and salaries in the province as a whole (+2.7%) and is due in part to the much stronger growth in employment in the high tech sector compared to the aggregate of all industries. However, this does not explain all of the difference,

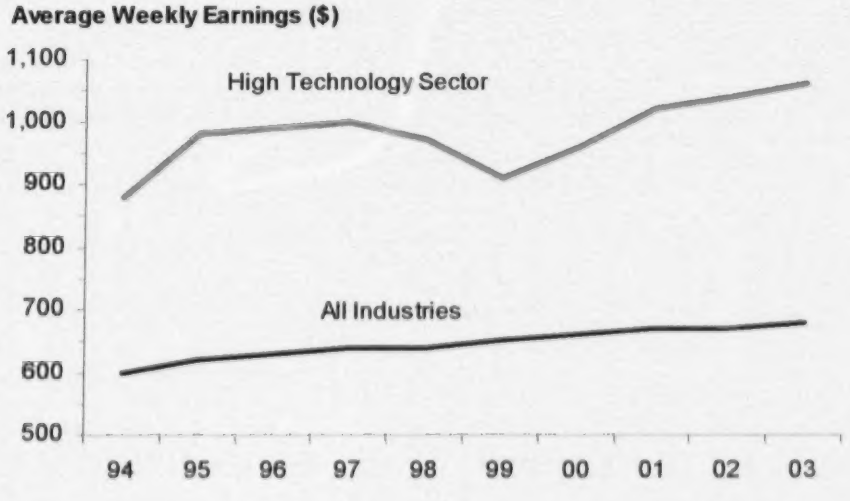
[5] Wages and salaries are based on the earnings of all workers in an industry who are on the payroll, from working owners and senior executives to junior support staff. While overtime and bonus pay are included, other benefits such as medical plans, stock options and time off in lieu of overtime are not. Like the employment values described earlier in this report, the wages and salaries data are calculated using source data from Statistics Canada's Survey of Employment, Payroll and Hours.

since average weekly wages in the high technology sector also increased at a greater rate compared to earnings in BC as a whole.

Average weekly earnings in high technology industries increased 1.9% in 2003, compared to only 1.0% for the BC industrial aggregate. Workers in high technology occupations earned an average of $1,060 per week, compared to only $680 for employees in all industries as a whole. The higher wages were earned mainly by those working in high technology service industries, where the average weekly wage was $1,130, compared to only $640 in the service sector overall. On the other hand, employees in high tech goods industries also earned more per week ($890) compared to the overall average for workers in British Columbia's goods industries ($860). The wage disparity in high tech is likely due to a combination of greater skill requirements relative to many jobs, as well as a strong demand for skilled high technology workers, therefore requiring greater pay to both attract and retain them.

Average weekly earnings are far higher in high tech industries

Wages in high technology industries are far higher than the average for all industries in the province **Figure 5**



However, reduced demand for high tech workers following the bursting of the high tech bubble in 2001 did not result in a corresponding drop in average weekly earnings. In high tech manufacturing, in particular, significant declines in employment were coupled with robust growth in average earnings. According to a Statistics Canada study, [6] the occupations that were hardest hit by layoffs

[6] Bowlby, Geoff. (Winter 2003). High-tech—two years after the boom. *Perspectives, Statistics Canada catalogue no. 75-001-XPE*, 27-30.

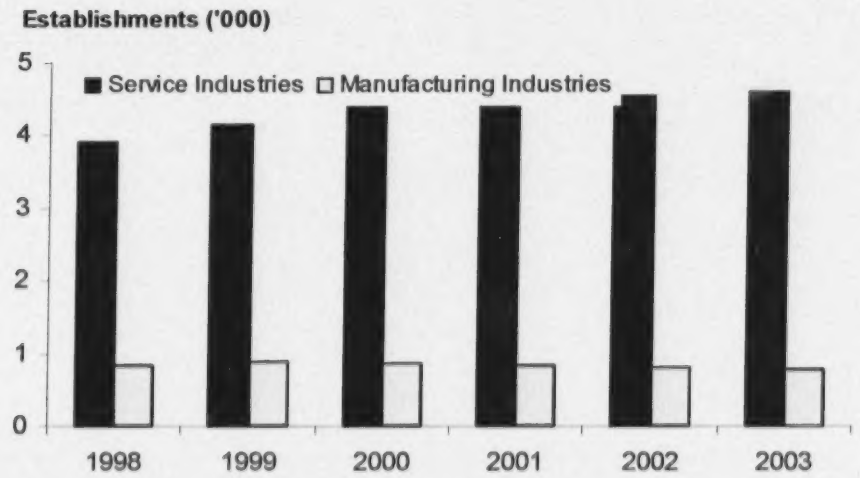
in the high tech sector were those with lower skill requirements, such as assemblers of high tech manufactured goods and clerical staff. As a result, there has been a shift in the composition of high tech employment toward a higher share of skilled workers, which, since these workers get paid more than those with less skills, has driven up the average earnings for the high tech sector overall.

The number of high tech establishments[7] increased in 2003

The number of high technology establishments in BC grew 0.8% in 2003, partially recovering from a 1.9% decline a year earlier. Excluding those establishments with no employees, there were 5,389 high tech establishments in the province. Of these, about 85% were in service industries. There were 4,606 high technology service establishments, but only 783 in manufacturing industries. The number of high tech manufacturing industries has been shrinking for each of the last four years, dropping from a peak of 871 in 1999. This is consistent with the trends in other indicators such as employment and GDP where high tech services and manufacturing industries have been moving in opposite directions.

Service industries dominate the count of high technology establishments

Figure 6 **Approximately 85% of high tech establishments are in service industries**



[7] An establishment is the smallest accounting unit within a firm that can report certain financial data. A single company may contain a number of establishments. A branch location does not always signify the existence of an establishment; for example, bank branches are not identified as individual establishments. Furthermore, to be included in the tabulations, the establishment must have paid employees; owner-operated firms with no paid employees are not included.

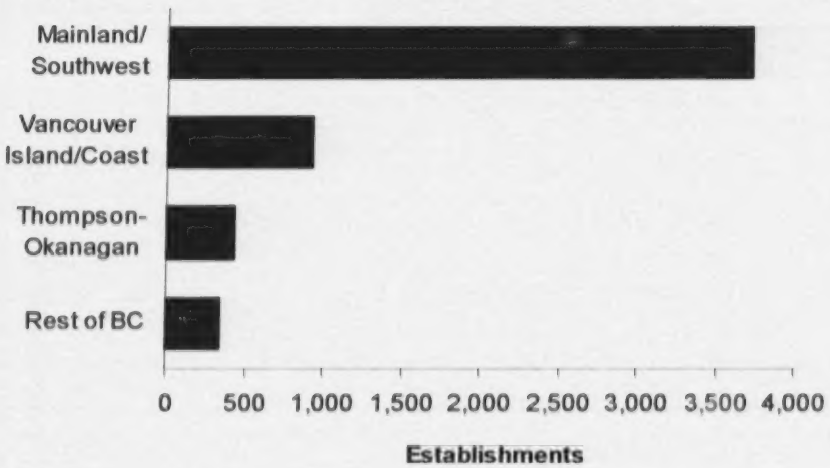
The most substantial decline in the number of high tech manufacturing establishments occurred in the aerospace industry, which lost 14 enterprises from 2002 to 2003. Most of these were businesses employing between one and four workers. At the same time, the number of self-employed in this industry climbed. This may be an indication that some small business owners had to shed their employees and continue on as a self-employed person with no paid help due to economic difficulties, perhaps as a result of lack of demand for their product.

There was also a significant drop in the number of establishments in computer and other electronics industries. This industry group has experienced declines for three years running, losing a net of 58 businesses since 2000.

High tech establishments are located where the people are

As one would expect, high technology establishments tend to be located in the most populous areas of the province. In 2003, over two-thirds (69%) of high technology establishments in British Columbia were located in the Mainland/Southwest Development Region (which includes Greater Vancouver). The bulk of the remainder were established in Vancouver Island/Coast (17%) and Thompson-Okanagan (8%).

Over two-thirds of high tech establishments are in the Mainland/Southwest, 2003 **Figure 7**



The Thompson-Okanagan region, with a growth rate of 3.9%, experienced the most significant expansion in the number of high tech businesses in 2003. Vancouver Island/Coast (+2.1%) was ranked second as significant growth in the number of high tech

service establishments (+3.0%) outweighed the decline in manufacturing businesses (-2.7%). There were significant drops in the number of establishments in both the Cariboo (-13.0%) and North Coast (-10.7%) regions.

The concentration of high tech businesses in the Lower Mainland and southern Vancouver Island has intensified over the last five years. The Mainland/Southwest region increased its share of British Columbia's high tech businesses with employees from 67.7% in 1998 to 68.8% in 2003, while Vancouver Island/Coast's share jumped from 16.1% to 17.1%, largely on the strength of growth in the Capital region (which includes Greater Victoria). The number of high tech establishments in the Capital region climbed from 495 in 1998 to 638 in 2003.

High tech manufacturing industries employ more people

Although establishments in the service sector heavily outnumber those in manufacturing industries, they tend to have fewer employees. Of businesses with employees, approximately 9% of high tech manufacturers employed more than 50 workers, compared to less than 4% of high tech service industries. While just over half (53%) of high tech manufacturing industries (excluding self-employed with no paid help) have less than five employees, over 70% of the establishments in the service sector fit this description.

Self-employment[8] in the high tech sector

Some of the high technology industries, particularly computer and engineering services, are ideally suited to self-employment, where the skills, knowledge and energy of the individual are more important than large capital investment. The data confirms this, as more than half of the businesses that were deemed to be high technology had no paid employees in 2003 (7,741 out of 13,130). Businesses in the service industries are far more likely to be comprised of self-employed individuals with no employees than those in manufacturing. In 2003, 61% of all high tech service establishments had no employees, compared to only 39% of high tech manufacturing businesses.

Self-employment is widespread in the high technology sector

[8] There is currently no perfect measure of self-employment in the high tech sector available. The figures quoted here are based on a tabulation of the number of establishments with no employee payroll. This approximates the number of self-employed with no employees (those with employees will be counted in the number of establishments discussed earlier). *Note that it would be erroneous to add these establishment counts to the total number of high technology workers reported elsewhere in this report due to the differences in what they are measuring.*

Establishments, 2003

	Without Employees	With Employees
Manufacturing	509	783
Services	7,232	4,606
High Tech Total	**7,741**	**5,389**
BC Total	**173,948**	**158,470**

Compared to the rest of the economy, the high technology industry has a larger proportion of businesses without employees. In 2003, 59% of high tech businesses had no employees compared to only 52% of all businesses in the province.

Trade is of vital importance to BC's high technology industry

International trade is an important aspect of the high technology sector, as reflected in the high volume of two-way trade. The domestic market for high technology goods does not have sufficient volume to achieve the economies of scale needed to remain competitive. Therefore, access to international markets is extremely important as it allows BC producers of high tech goods to focus on market niches. At the same time, BC manufacturers do not produce enough of some types of high technology equipment to satisfy the domestic demand from either consumers or the high technology industry itself, and as a result, large volumes of goods are imported into the province.[9]

Value of high tech exports fell for the third consecutive year

International exports of high technology products from BC fell for the third straight year in 2003, with shipments valued at 8.2% less than exports in 2002. This is compared to a 1.7% drop in the value of overall exports from BC. However, unlike the previous two years when the declines were due to a drop in demand for high tech products, the weaker performance in 2003 was mainly the result of the rapid appreciation of the Canadian dollar against its American counterpart. When valued in American currency, BC high technology exports actually increased in 2003, rising 3.4%.[10] Overall exports did not suffer as sharp a decline as international shipments of

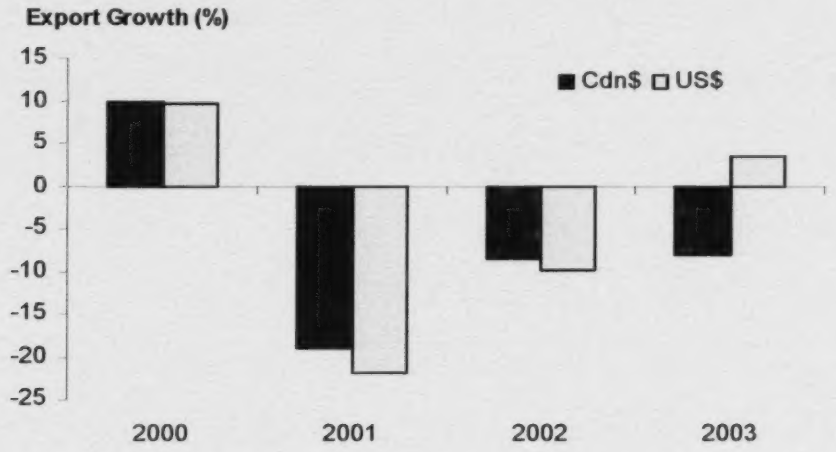
The soaring Canadian dollar was the reason for a decline in the value of BC high tech exports in 2003

[9] High technology goods referred to in this document are based on a list developed by the US Bureau of the Census and modified to fit Canadian conditions. See Appendix B, "Defining High Technology Commodities" for more information.

[10] The value of exports was converted to US dollars using an average monthly exchange rate and applying it to monthly trade data.

high tech commodities because rising commodity prices offset some of the impact of the higher dollar, particularly in the energy sector where prices for natural gas and electricity soared.

Figure 8 **The drop in the value of BC high tech exports in 2003 was mainly due to the rapid appreciation of the Canadian dollar**

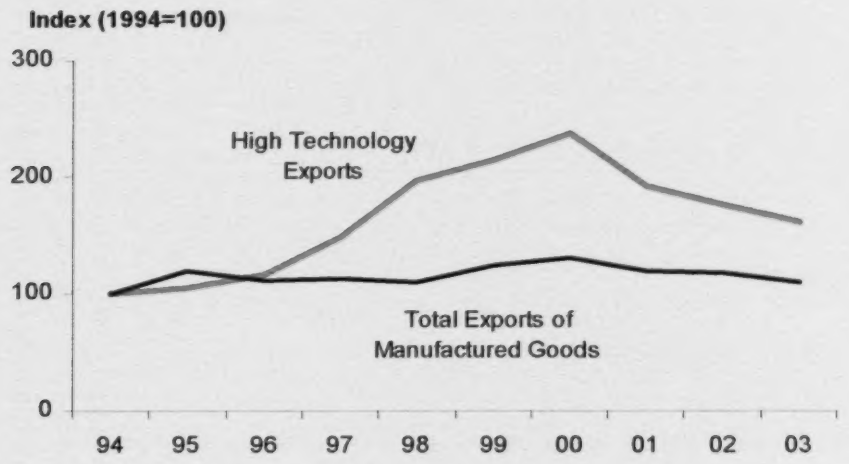


High technology goods comprised approximately 2.2% of all BC commodity exports in 2003, which is well down from the peak of 3.0% recorded in 1998. Slower growth in high tech exports compared to commodity trade as a whole over the last few years has led to a diminishing share for high technology commodities. However, this slippage was not enough to wipe out the gains from a substantial growth spurt through the last half of the 1990s that more than doubled the value of high tech exports, and doubled the percentage of total BC commodity exports comprised of high tech goods. The 2.2% share recorded in 2003 is still well above the 1.3% portion of commodity exports that consisted of high technology products in 1991.

For commodity exports excluding non-manufactured goods, the story is much the same. High technology goods exports grew far faster than that of total manufactured goods through most of the last decade, but over the last few years, international shipments of high tech goods have undergone a much more precipitous decline.

BC high tech exports have fallen faster than exports of manufactured goods as a whole over the last few years

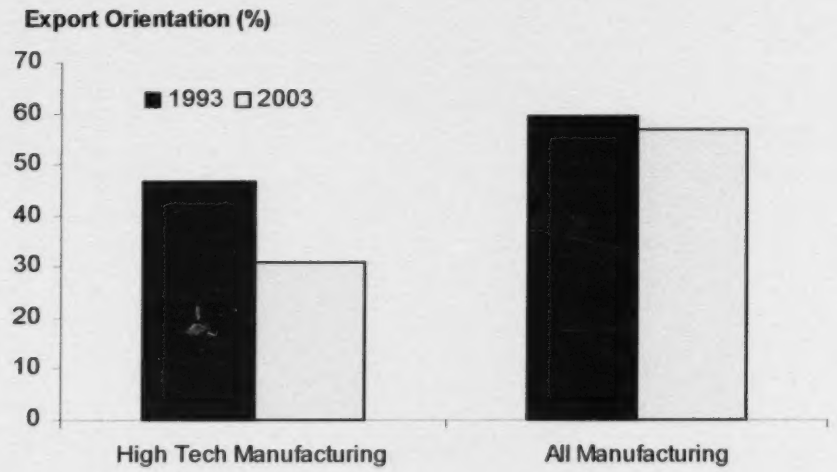
Figure 9



The export orientation of high technology products has changed considerably since 1993, when just under 47% of all high technology shipments were exported to international destinations. In 2003, only 31% of total high tech shipments were exported compared to 57% of overall manufactured goods, which indicates that BC's high tech industry is geared more toward the Canadian market compared to manufacturing in general.

A smaller portion of high technology products are exported compared to total manufacturing

Figure 10



Export performance was better for some high tech commodity groups than others in 2003

The decline in high tech exports was spread across several commodity groups, but for some types of goods, 2003 was a year of strong growth.[11] Exports of commodities classified in the computer integrated manufacturing category increased by almost a third in 2003 (+31.6%), while shipments of goods in the life sciences category rose 8.2%, buoyed in particular by climbing values of exports of electro-diagnostic apparatus, as well as mechano-therapy appliances and psychological aptitude-testing apparatus.

Despite a 10.1% drop in the value of exports of computers and telecommunications goods, this group still retained its number one ranking among the advanced technology products categories. Since peaking at $443.2 million in 1998, exports of these high tech goods have slipped 46.8% to $235.7 million in 2003. From a high of 70.7% in 1992, the share of total BC high tech exports comprised of computers and telecommunications goods has fallen to 37.5% in 2003.

BC high technology exports by commodity group - 2003

	$ millions	% change
Computers and Telecommunications	235.7	-10.1
Life Sciences	201.5	8.2
Aerospace	83.9	-19.7
Computer Integrated Manufacturing	62.5	31.6
Opto-Electronics	35.3	-50.3
Electronics	4.1	-9.7
Weapons and Nuclear	2.1	-45.9
Biotechnology	2.0	19.6
Material Design	1.5	-53.1
Total	**628.5**	**-8.2**

International shipments of opto-electronic goods from BC plunged in 2003 to half the value exported a year earlier. Exports of selected optical devices, appliances and instruments that accounted for almost half this category in 2002, plummeted 97.8%, making up the bulk of the decline; however, shipments of surveying, hydrographic, oceanographic, meteorological or geophysical instruments also dropped sharply (-42.8%), contributing significantly to the overall decline of opto-electronic exports.

[11] For information on high technology commodity groups, see Appendix B.

The US is the primary destination for BC high tech exports

As with exports in general, the United States is the top destination for high technology goods exported from British Columbia; however, the percentage of BC high tech goods shipped to the US is much larger than that for commodity exports as a whole. In 2003, BC manufacturers of high technology commodities exported $503.0 million of their products to the United States, accounting for 80% of the total value of high technology exports. By comparison, 66% of BC's total goods exports were shipped to the United States.

The US is the destination of 80% of BC high tech exports

The United Kingdom has leapfrogged over Japan to become the second most significant destination for BC high tech exports, but at $16.0 million, shipments to the UK are a fraction of the value of exports to the United States. China at $10.3 million and Germany at $7.9 million have also surpassed Japan, which fell to fifth spot after BC high tech exports to that country plunged to a third of the value recorded in 2002, from $22.0 million to just $7.3 million in 2003. Substantial drops in exports of opto-electronics and aerospace goods were the main culprits in the decline. Strong growth in exports of computers and telecommunications and goods in the life sciences classification helped propel China up the ranks as high tech exports from BC to China increased by about two and a half times the value shipped in 2002.

BC high technology exports by destination - 2003

	$ millions	% change
United States	503.0	-9.9
European Union	50.6	-13.0
United Kingdom	16.0	-26.8
Germany	7.9	8.1
Pacific Rim	40.4	-14.4
China	10.3	152.5
Japan	7.3	-66.6
Rest of the world	34.6	63.3
Total	**628.5**	**-8.2**

Most high tech exports from BC move by truck or rail

The most popular mode of transport for exports of high technology goods from British Columbia is over land by truck or rail. Well over half (57.2%) of all BC high tech exports are transported over land, with airfreight being the next most significant mode of transport

(40.8%). Very little of BC's high tech goods are shipped by sea (2.0%). The destination of the shipments is a significant determinant of the mode of transport. Since the United States is the destination for the bulk of high tech exports and air transport is more expensive, on average, shipment over land is the leading method of transport.

BC high technology exports by destination and mode of transport - 2003

	Mode of Transport	$ millions	% of region	% of total high tech exports
United States	Land	353.8	70.3	56.3
	Sea	0.0	0.0	0.0
	Air	149.2	29.7	23.7
	Total	*503.0*	*100.0*	*80.0*
All other countries	Land	5.9	4.7	0.9
	Sea	12.4	9.9	2.0
	Air	107.2	85.4	17.1
	Total	*125.5*	*100.0*	*20.0*
Total	Land	359.7	57.2	57.2
	Sea	12.4	2.0	2.0
	Air	256.5	40.8	40.8
	Total	*628.5*	*100.0*	*100.0*

About 70% of BC's high tech goods exports to the US are transported over land, with the remainder shipped by air. For all other countries excluding the US, air cargo is the most frequent mode of transport, accounting for over 85% of the total.[12]

Imports of high technology goods declined in 2003

Contrary to what one might expect, the spiralling Canadian dollar did not result in substantial growth in the value of high technology imports into BC. The allure of less expensive merchandise did not translate into substantially higher demand for imported high tech goods. In fact, imports of high tech goods fell 7.8% in 2003, almost the same rate of decline as exports. However, as with exports, when converted to American currency, imports actually grew, rising 3.6%.

The value of high tech imports into BC dropped 7.8% in 2003

[12] Note that the shipments by land to destinations outside the United States are not all destined for Mexico. Goods destined for overseas destinations may leave BC by truck or rail to points of departure in the United States where they are loaded onto ships or planes for the remainder of their journey.

Although the US is the most significant origin of BC imports of high technology, it is not nearly as dominant as it is as a destination for exports, which is one reason why the higher exchange rate did not translate into increases in the volume of high tech imports as substantial as one might expect. In 2003, almost half (46%) of all high tech imports into BC originated in the United States. About 28% of imports were from the Pacific Rim and 15% were from the European Union. The Canadian dollar did not move much against the Euro or most Asian currencies (with the exception of the Chinese renminbi, which is tied to the US dollar), so there were fewer currency effects with imported goods compared to exports.

However, even when looking specifically at imports from the United States, BC imports of high tech goods valued in US dollars rose only 1.4%, which is far less than one might expect given the magnitude of the appreciation in the Canadian dollar and the fact that goods priced in US dollars were therefore far less expensive compared to a year earlier. One possible explanation is that a significant amount of high tech goods imported into the province are used as inputs into BC's own high technology manufacturing. Since demand for domestically produced manufactured high tech goods was tepid in 2003, the demand for input goods imported into the province was also muted.

BC high technology imports by commodity group - 2003

	$ millions	% change
Computers and Telecommunications	2,120.4	-2.6
Life Sciences	573.2	5.8
Aerospace	493.4	-34.4
Electronics	203.4	-10.8
Computer Integrated Manufacturing	169.5	4.2
Opto-Electronics	94.3	-9.8
Biotechnology	55.2	3.5
Weapons and Nuclear	28.0	-2.1
Material Design	21.7	-27.3
Total	**3,759.2**	**-7.8**

The value of high tech goods imported into BC was almost six times that of high tech exports in 2003. As with exports, computer and telecommunication goods are by far the largest category of high technology imports. This category comprised well over half (56.4%) of high tech imports into BC and was over three and a half times the value of imports of second-ranked life sciences commodities. Imports of goods classified in the aerospace category fell dramatically in 2003, dropping to less than two-thirds the value im-

ported a year earlier. The decline in aerospace imports was one of the main contributors to the overall drop in high tech imports.

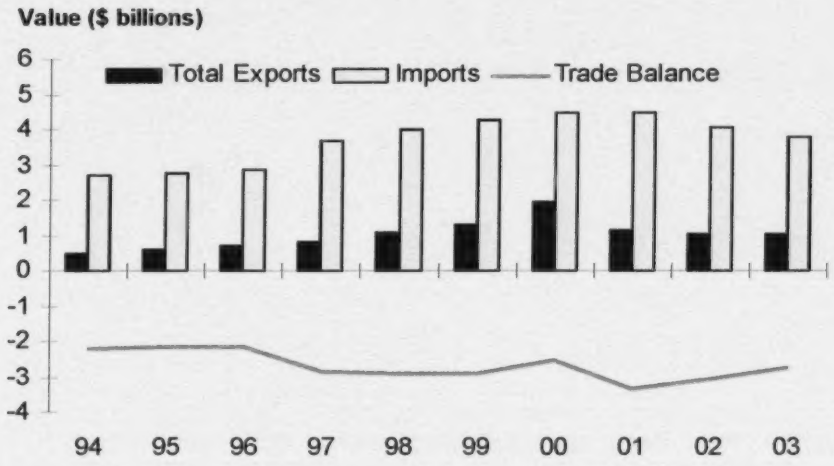
BC's trade deficit in high tech goods narrowed in 2003

British Columbia imports substantially more high technology goods than it exports and, as a result, the province runs a trade deficit in these commodities. Since hitting a peak of $3.3 billion in 2001, BC's high technology commodity trade deficit has since shrunk to $2.7 billion. Even though exports and imports fell at about the same pace in 2003, the absolute decline in imports was larger, which resulted in a significant improvement in BC's high tech trade balance, or, in other words, a decline in the trade deficit.

BC has a $2.7 billion trade deficit in high tech goods

Figure 11

BC's high tech trade deficit has improved over the last couple of years



Over a third ($1.0 billion) of BC's high tech trade deficit is with the United States. This is in stark contrast to commodity trade as a whole, where BC has a substantial trade surplus with the US. British Columbia also has significant deficits in trade of high tech goods with countries of the Pacific Rim ($907.4 million) and the European Union ($470.7 million).

With the exception of electronics, the trade deficit spans across all commodity groups. The largest deficits are for goods with the highest volumes of trade. The trade deficit for computers and telecommunications alone is just under three times the value of all BC high tech commodity exports combined.

BC balance of trade in high technology goods by commodity group - 2003

	$ millions
Electronics	38.5
Material Design	-18.3
Weapons and Nuclear	-24.9
Biotechnology	-53.2
Opto-Electronics	-57.4
Computer Integrated Manufacturing	-97.6
Aerospace	-356.7
Life Sciences	-366.0
Computers and Telecommunications	-1,809.0
Total	**-2,744.7**

Exports of high tech services weakened considerably in 2002

Service exports are generally more difficult to measure compared to exports of goods. Some service exports take place when BC-based professionals, such as engineers or software programmers, work for a period of time outside the province. Service exports also occur when, for example, an engineering firm produces a study in its BC office for an overseas client or when a software developer creates a new program that is "shipped" on-line to a client in another country.

There are only two service industries in the high technology sector that derive a significant part of their revenues from exports. In 2002, exports of computer and engineering services were valued at approximately $934 million, about a third higher than the value of all high technology goods exports.[13] Exports of high technology services have exceeded those of high tech goods for five out of the last six years. Prior to 1997, exports of high tech goods from BC always topped high tech service exports. Over the last decade, the value of exports of high tech services from BC has increased by more than six times what it was in 1992.

BC high tech service exports fell 14.5% in 2002 to $934 million

However, the value of service exports dropped substantially in 2002, down 14.5% from a year earlier. The decline occurred both in exports of computer services (-14.0%) and engineering services (-18.2%). This is following on the heels of an increase of 8.3% in 2001, a year in which the high tech sector was

[13] The analysis presented here is for 2002, the most recent year for which complete data are available.

dealing with the problems associated with the bursting of the dot-com bubble, which suggests that the industry in BC may have suffered a delayed reaction to the turmoil related to failing dotcoms.

BC high technology service exports - 2002

	Revenues	Exports	
	$ millions	$ millions	% change
Computer services	2,560	822	-14.0
Engineering services	1,415	112	-18.2
Total	**3,975**	**934**	**-14.5**

Companies in BC and the rest of Canada are facing tough challenges from countries such as India, China and Russia, which are increasingly attracting information technology (IT) jobs. These computer services are highly mobile and the lower labour costs associated with these emerging economies make it cost effective for companies in Canada and the United States to outsource their IT services to these countries. This could seriously affect the level of high tech services exports in the years to come as companies in the US and elsewhere that currently import services from BC could switch to lower-cost providers in these and other nascent economies.

However, according to a recent report by the UN Conference on Trade and Development, Canada is one of the top countries in the world in terms of attracting "offshore" service work.[14] Canada, Ireland, India and Israel combined were responsible for over 70 per cent of the market for offshore services in 2001. A common language and proximity to the United States could help BC companies stay competitive for offshore work in high tech services, despite the challenges from emerging economies.

[14] *World Investment Report 2004: The Shift Towards Services*. (2004). UN Conference on Trade and Development.

BC's High Technology Industry in Context

While it is useful to examine the high technology industry's importance relative to other industries within British Columbia and to look at trends and compare the industry's performance today to what it was a year ago or a decade earlier, one cannot really judge the size and scope of BC's high tech sector without comparing it to high tech in other jurisdictions.

Within Canada, British Columbia ranks fourth behind Ontario, Quebec and Alberta in most measures of the size and performance of its high technology sector, with the exception of employment in high tech jobs, where it ranks ahead of Alberta, and average weekly earnings, where it ranks ahead of Quebec.

BC ranks fourth in the country in high technology GDP

In 1997, Alberta's high tech GDP eclipsed the comparable BC figure and has since remained at a higher level. Like BC, Alberta's high tech sector is predominantly driven by the services sector, with about three-quarters of high tech GDP generated by service industries. In Quebec, the opposite is true, with only about 30% of high tech GDP produced by the service sector. Quebec's large aerospace industry is part of the reason for the dependence on manufacturing.

BC ranks fourth in Canada in terms of GDP generated by high tech

After suffering the worst decline among the provinces in 2002 (-4.9%), high technology GDP in British Columbia experienced the strongest growth in 2003. BC's performance of 3.0% growth was well above the national average of only 0.4%. Quebec was the only province to have a decline in high tech GDP in 2003, dropping 3.8%. Over the last decade it has been Alberta that has been the top performer among the provinces, with increases in high tech GDP in each of the last ten years for a cumulative growth rate of 267% from 1993 to 2003. Although British Columbia also experienced strong growth over that period, the 112% jump was well behind Alberta's performance and even trailed the Canadian average of 121%.

BC had the strongest growth in high tech revenues in 2003

In contrast to Alberta's relatively strong performance with regard to high tech GDP, that province has suffered the largest drops in high tech revenue in each of the last two years. British Columbia, on the other hand, has had the best record among the provinces, with the smallest rate of decline (-6.7%) in 2002 and the only increase (+3.8%) in 2003. Nationally, revenues in the high tech sector

have declined for three straight years. Despite BC's recent relative success, the province is still ranked only fourth among the provinces in terms of high tech revenue.

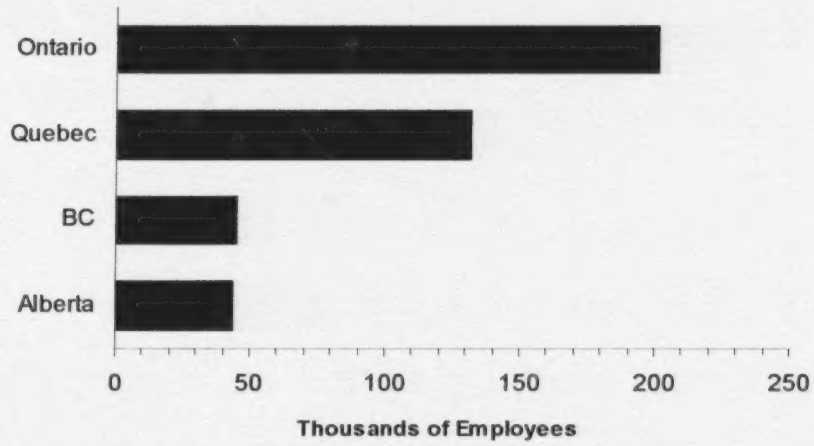
High tech employment fell nationally, but not in BC

Similar to GDP and revenue, British Columbia also bucked the national trend in employment growth and was the only province with an expansion in employment in high technology industries. Nationally, employment in the high tech sector fell 2.2%, but in British Columbia it climbed 2.7%. In Alberta, the number of workers in the sector dropped 3.5% to drop below British Columbia's high tech employee count for the first time since 1997. Quebec (-1.9%) and Ontario (-2.2%) also experienced declines in high tech employment.

Only BC saw growth in high tech employment in 2003

Since 1991, British Columbia has increased its share of high technology employment in Canada by 1.6 percentage points. Alberta, as a result of rapid growth through the mid-to-late 1990s, has boosted its share of the Canadian total by 3.8 percentage points. However, for both BC and Alberta, their share of Canadian high tech employment is still lower than the share of total employment. BC has just over 12% of overall employment, but only 10% of high tech employment, while Alberta has 11% of total employment, but only 9% of high tech employment. Almost three-quarters of high technology employees reside in Ontario (44%) and Quebec (28%).

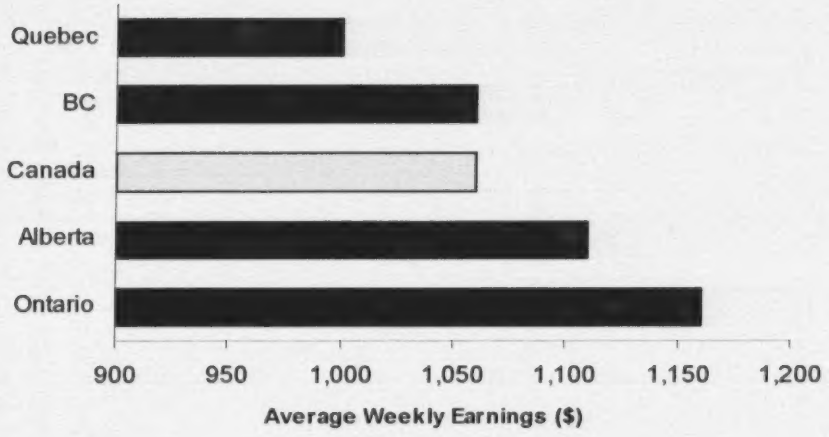
Figure 12 BC ranks third in high tech employment in Canada, 2003



High tech earnings have increased across the country

Average weekly earnings in the high technology sector climbed in every province in 2003, averaging an increase of 2.9%. Earnings in British Columbia grew slightly slower than the national average, at 2.3%, while Ontario (+3.0%) and Quebec (+4.7%) experienced above average wage inflation. Alberta, at a modest 1.2% growth, also trailed the Canadian average. Ontario, with average high tech earnings of $1,160 per week, led the country, while Quebec had the lowest weekly earnings among the four high tech provinces. BC had the same weekly earnings as the national average.

BC high tech workers had the same average weekly earnings as the national average in 2003 **Figure 13**



BC's high tech commodity exports fared better than most

Although exports of high technology goods from British Columbia dropped significantly in 2003 (-8.2%), the decline was comparatively less than that in most other provinces. Nationally, high tech commodity exports fell 10.1%, driven largely by substantial declines in Ontario (-17.7%) and Alberta (-37.1%). Quebec, which is the leading province for high tech commodity exports, performed relatively well by comparison, with exports slipping only 1.6%.

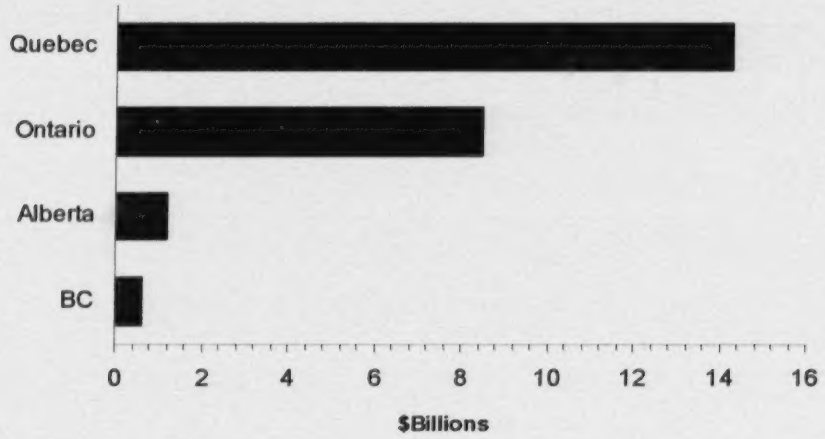
BC's high tech exports fared better than most other provinces

The substantial drop in the value of exports from Alberta was the third consecutive double-digit decline. The value of international shipments of high tech goods from Alberta has plummeted from a peak of $4.4 billion in 2000 to just under $1.2 billion in 2003. Much of this drop was due to the global slump in the telecommunications

sector and the subsequent fall in demand for telecommunications products. Despite the precipitous decline, Alberta still ships far more high tech goods to international destinations than British Columbia.

Figure 14

BC's exports of high tech goods are relatively small, 2003



The portion of BC origin domestic exports comprised of high technology goods is relatively small compared to other parts of the country. In 2003, 7.1% of all commodities exported from Canada were high tech goods, compared to only 2.2% of goods originating in British Columbia. While this gave BC the edge on Alberta where only 2.1% of exports were from the high tech sector (down from a peak of 7.9% in 2000), it was well behind Ontario at 5.0%. However, all other provinces paled in comparison to Quebec where almost a quarter (23.4%) of all commodity exports were comprised of high technology goods. The reason for the substantial share in Quebec is that province's significant aerospace industry, which is the source of the majority of Quebec's high tech exports.

BC exports relatively few high tech goods compared to other provinces

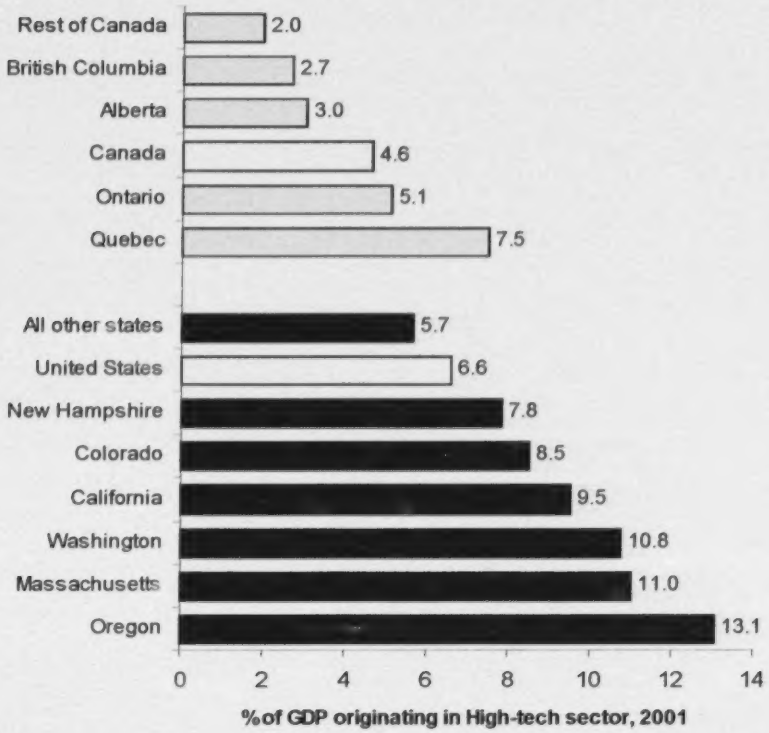
British Columbia's high tech sector is small in comparison to the top high technology states in the United States

High technology industries generated about 7% of GDP[15] in the United States in 2001, more than double the less than 3% share in

[15] Data for the United States is available only up to 2001 for GDP and revenue, and 2002 for employment and wages, so all comparisons here are for those years.

British Columbia.[16] It is also much greater than in Canada as a whole, where high technology activities accounted for just under 5% of the nation's GDP.

Compared to BC, high tech industries play a more significant role in the economy of many US states **Figure 15**



Among the six states selected for study, Oregon was the most dependent on high technology with that sector accounting for 13% of the state's GDP. This may come as a surprise to those who are accustomed to seeing Oregon as mainly a lumber producer, but high

Note that GDP and revenue estimates for the US should be viewed as preliminary. The US is still in the process of converting to NAICS and GDP and revenue estimates published by various agencies in the US are currently reported on an SIC basis. In the absence of NAICS-based GDP and revenue data, estimates for the US high technology sector were constructed by applying high tech ratios (calculated using data that is reported on a NAICS basis) for manufacturing and selected service industries to SIC industry aggregates for manufacturing, business and "other" services (the industry groupings corresponding to the ratios). Employment and related statistics are already reported using NAICS classifications.

[16] The US currently uses 1996 as its base year for calculating GDP, whereas in Canada, the base year in use is 1997. Therefore, comparisons of the relative size of the high tech sector in the economy are based on current dollar figures.

technology has become the state's largest manufacturing industry. Portland, the hub of high tech in Oregon, is home to the factories of high tech giants such as Intel and Hewlett-Packard.

However, in terms of the total size of the high tech sector, California still leads the pack, posting $200.8 billion in high tech GDP in 2001.[17] This is just under one-fifth of total United States high technology GDP, which measured just over one trillion dollars. British Columbia's high technology industries generated approximately $3.3 billion of GDP in 2001, less than one-tenth of neighbouring Washington State's $37.2 billion in high tech GDP.

The slowdown in the high technology sector that started in 2001 is reflected somewhat in the GDP figures, as overall high tech GDP growth in the United States was only 0.3% and Washington was the only state of the six studied where GDP increased in that year (+7.9%). It is likely that data for 2002 will show a significant decline in GDP, particularly considering employment figures, which fell significantly in 2002.

A relatively greater percentage of Americans are employed in high technology industries

In 2002, approximately 4.0% of American employees worked in high technology industries.[18] This compares to about 3.5% of Canadian employees and only 2.8% of employed workers in British Columbia. Total high technology employment in the United States in 2002 was 5.2 million, but this is down 8.8% from 2001. All six of the states studied experienced declines in high tech employment in excess of 10 per cent in 2002 as the full effects of the high tech downturn began to filter through the economy.

High tech is a more significant employer in the United States

California, which employs about 17% of the United States' high tech employees, shed almost 100,000 high tech employees in 2002, a decline of 10.2% from 2001. Each of the six states studied experienced double-digit declines in the number of high tech employees, with California representing the lowest per cent decline and New Hampshire, at 17.9%, the largest drop. By comparison, Quebec, where high tech employment fell 4.9% in 2002, was the province

[17] All dollar figures for the United States have been restated in Canadian currency to allow direct comparison with comparable Canadian figures. An annual average of the Canada/US exchange rate was used to perform the conversion.

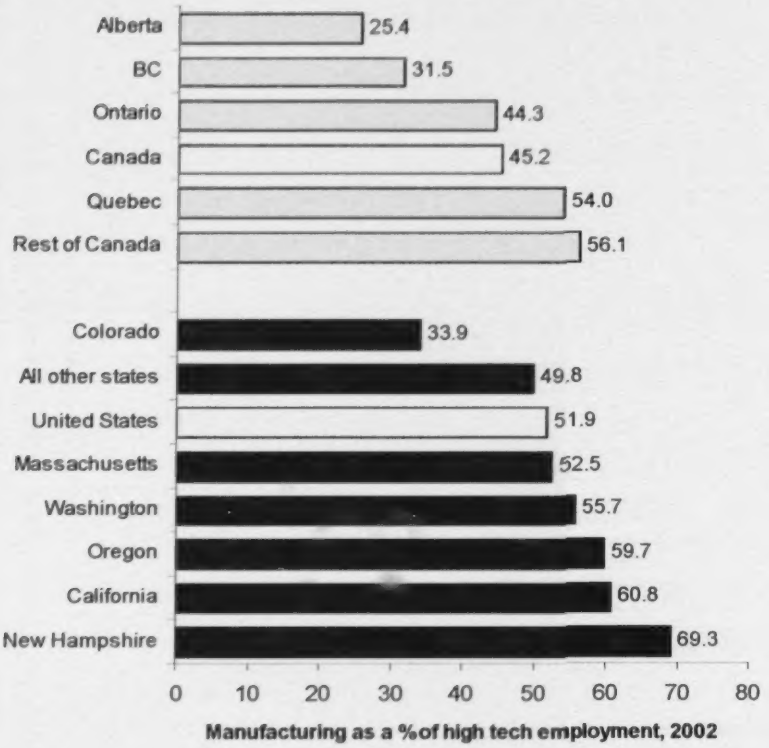
[18] The employment data used in this report comes from an employer survey so self-employed workers are excluded.

with the worst growth rate in high tech employment in Canada. British Columbia's 3.6% decline is reasonably small by comparison.

Unlike British Columbia, where the majority of high tech jobs are in the service sector (68-70%), in the United States, the manufacturing sector has just over half (52%) of all American high tech jobs. Of the six states studied, only Colorado had more high tech jobs in the service sector (66%). This contrasts with New Hampshire, where over two-thirds (69%) of high tech jobs were in the manufacturing sector.

One out of every two jobs in the United States' high technology sector is in manufacturing

Figure 16



The United States exports and imports relatively more high tech goods compared to Canada

The United States exported $212.3 billion worth of high tech commodities in 2003, which represented about 23% of total US domestic exports. By comparison, high technology accounted for only 7% of total Canadian exports and 2% of BC origin exports. Quebec is the only province that has a comparable ratio to that of the United States. In 2003, high technology accounted for 23% of Quebec's total domestic exports.

The discrepancy is not nearly as large when it comes to imports as just under 17% of all imports into the US are high technology goods, compared to approximately 12% of imports into Canada.

As with the Canadian provinces, domestic exports of high technology goods from the United States have fallen in each of the last three years. In 2003, US high tech exports, denominated in Canadian dollars, dropped 11.8%. Imports also took a bit of a tumble, slipping 5.7% in 2003, although they have not been falling at nearly the rate of exports over the last few years. As a result, the United States, which at one point had a surplus in trade of high tech goods of over $45 billion, has had a deficit in the last two years. In 2003, the American high tech trade deficit stood at $38.4 billion.[19]

British Columbia's high technology sector has room to grow

Put into context with surrounding jurisdictions, British Columbia's high technology sector is relatively small. However, high tech in BC has undergone rapid expansion in the last decade and there is no reason to suspect that it will not continue to grow. The high technology sector, by its nature, is constantly in a state of flux, with new products coming online regularly. High technology is becoming more prevalent in many "traditional" industries, such as forestry, mining and agriculture and will likely continue to have a more significant presence in those and other sectors. Given the importance of high technology products in today's world and the combination of lucrative revenues and well-paid employment offered by high tech, there is little doubt that the sector will continue to attract attention in British Columbia and elsewhere.

[19] Note that the balance of trade is calculated by taking the difference of total exports (including re-exports) and subtracting imports. The $212.3 billion figure for 2003 excludes re-exports, which were $39.6 billion.

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Table 1. Gross Domestic Product (GDP) (Constant Dollar) at Basic Prices,[1] by Industry, 1993-2003

	Constant Dollars (1997 $ million)[2]										
NAICS INDUSTRY	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Manufacturing	**443**	**484**	**498**	**650**	**743**	**818**	**1,076**	**1,749**	**1,347**	**1,105**	**1,154**
325 Chemicals	*	*	*	*	*	*	*	164	168	*	190
Computer & other Electronics	*	*	*	*	*	*	*	1,451	1,038	*	815
33641 Aerospace	42	51	58	*	*	*	32	31	32	32	36
33911 Medical equipment	58	60	62	61	68	73	94	103	109	120	113
Services	**1,224**	**1,340**	**1,432**	**1,525**	**1,709**	**1,930**	**1,904**	**1,948**	**2,280**	**2,344**	**2,396**
51 Information services	212	140	153	171	175	359	364	395	456	513	525
541510 Computer systems design	205	397	463	540	529	600	668	709	757	773	850
541330 Engineering services	827	806	810	794	1,006	971	872	845	1,067	1,058	1,022
High Technology Sector Total	**1,673**	**1,830**	**1,938**	**2,175**	**2,452**	**2,747**	**2,980**	**3,697**	**3,627**	**3,448**	**3,550**
BC Industrial Aggregate	**92,110**	**96,548**	**99,129**	**101,306**	**104,554**	**105,960**	**109,176**	**114,229**	**115,647**	**118,240**	**121,203**
High Technology as a % of Total	**1.8**	**1.9**	**2.0**	**2.1**	**2.3**	**2.6**	**2.7**	**3.2**	**3.1**	**2.9**	**2.9**

	% change from previous year									
NAICS INDUSTRY	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Manufacturing	**9.2**	**3.0**	**30.4**	**14.3**	**10.1**	**31.5**	**62.6**	**-23.0**	**-18.0**	**4.5**
325 Chemicals	*	*	*	*	*	*	*	2.5	*	*
Computer & other Electronics	*	*	*	*	*	*	*	-28.5	*	*
33641 Aerospace	22.4	15.0	*	*	*	*	-4.1	3.9	0.9	11.8
33911 Medical equipment	3.2	3.9	-1.6	11.3	7.5	28.3	10.3	6.0	9.6	-5.3
Services	**9.4**	**6.9**	**6.5**	**12.1**	**12.9**	**-1.3**	**2.3**	**17.0**	**2.8**	**2.2**
51 Information services	-34.0	9.3	11.7	2.2	105.3	1.5	8.3	15.5	12.5	2.3
541510 Computer systems design	93.4	16.6	16.8	-2.2	13.5	11.3	6.1	6.9	2.1	9.9
541330 Engineering services	-2.4	0.5	-2.0	26.6	-3.5	-10.1	-3.2	26.3	-0.9	-3.4
High Technology Sector Total	**9.4**	**5.9**	**12.3**	**12.7**	**12.1**	**8.5**	**24.1**	**-1.9**	**-4.9**	**3.0**
BC Industrial Aggregate	**4.8**	**2.7**	**2.2**	**3.2**	**1.3**	**3.0**	**4.6**	**1.2**	**2.2**	**2.5**

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.
2. Prior to the base year (1997), components do not sum to published total due to the inclusion of an adjusting entry.

* Data has been suppressed due to confidentiality requirements.

Source: BC Stats and Statistics Canada

Table 2. Gross Domestic Product (GDP) (Current Dollar) at Basic Prices,[1] by Industry, 1993-2003

Current Dollars ($ million)

NAICS	INDUSTRY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing		**461**	**492**	**637**	**770**	**743**	**734**	**920**	**1,310**	**1,161**	**904**	**891**
325	Chemicals	*	*	*	*	*	*	*	157	161	*	170
	Computer & other Electronics	*	*	*	*	*	*	*	1,012	847	*	557
33641	Aerospace	34	53	68	*	*	*	66	28	32	33	34
33911	Medical equipment	52	56	60	60	68	73	99	112	122	135	131
Services		**1,233**	**1,305**	**1,414**	**1,445**	**1,709**	**1,962**	**1,858**	**1,880**	**2,116**	**2,144**	**2,280**
51	Information services	228	138	156	179	175	357	350	377	415	407	472
541510	Computer systems design	220	389	470	567	529	596	670	648	624	678	744
541330	Engineering services	785	778	788	699	1,006	1,008	837	855	1,077	1,059	1,064
High Technology Sector Total		**1,694**	**1,797**	**2,050**	**2,214**	**2,452**	**2,696**	**2,777**	**3,190**	**3,277**	**3,048**	**3,170**
BC Industrial Aggregate		**87,719**	**94,773**	**99,065**	**101,865**	**104,554**	**105,907**	**110,806**	**120,533**	**122,195**	**125,926**	**129,853**
High Technology as a % of Total		**1.9**	**1.9**	**2.1**	**2.2**	**2.3**	**2.5**	**2.5**	**2.6**	**2.7**	**2.4**	**2.4**

% change from previous year

NAICS	INDUSTRY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing		**6.8**	**29.3**	**20.9**	**-3.5**	**-1.1**	**25.3**	**42.5**	**-11.4**	**-22.2**	**-1.4**
325	Chemicals	*	*	*	*	*	*	*	2.2	*	*
	Computer & other Electronics	*	*	*	*	*	*	*	-16.3	*	*
33641	Aerospace	55.2	26.8	*	*	*	*	-57.1	11.9	3.8	2.0
33911	Medical equipment	8.2	6.7	0.1	12.9	6.9	37.0	12.9	8.4	11.2	-3.4
Services		**5.9**	**8.3**	**2.2**	**18.3**	**14.8**	**-5.3**	**1.2**	**12.6**	**1.3**	**6.3**
51	Information services	-39.6	13.2	15.3	-2.5	104.3	-2.0	7.7	10.1	-1.9	15.8
541510	Computer systems design	76.8	20.7	20.6	-6.7	12.8	12.4	-3.3	-3.8	8.6	9.8
541330	Engineering services	-0.8	1.3	-11.4	44.0	0.2	-17.0	2.1	26.0	-1.7	0.5
High Technology Sector Total		**6.1**	**14.1**	**8.0**	**10.7**	**9.9**	**3.0**	**14.9**	**2.7**	**-7.0**	**4.0**
BC Industrial Aggregate		**8.0**	**4.5**	**2.8**	**2.6**	**1.3**	**4.6**	**8.8**	**1.4**	**3.1**	**3.1**

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.

* Data has been suppressed due to confidentiality requirements.

Source: BC Stats and Statistics Canada

Table 3. Gross Domestic Product (GDP) (Constant Dollar) at basic prices,[1] Selected Activities, 1993-2003

Constant (1997 $ million)[2]

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Goods-producing industries	**25,963**	**26,580**	**26,885**	**26,892**	**27,806**	**27,221**	**28,496**	**30,473**	**29,009**	**28,687**	**29,641**
Agriculture and related	1,881	1,727	1,842	1,987	*	2,120	2,363	2,592	2,674	2,744	2,744
Fishing, trapping and related	523	458	340	311	*	273	273	285	279	292	300
Forestry and related	*	*	*	*	8,843	8,545	9,340	9,633	8,898	8,877	9,250
Mining and related	3,617	3,789	4,099	*	4,415	*	4,497	4,835	4,908	4,856	4,936
Other manufacturing	*	*	*	*	3,172	*	3,770	5,100	4,339	4,196	4,246
Total manufacturing	10,687	10,718	10,839	10,847	11,479	11,238	12,865	15,192	13,774	13,899	14,332
Construction	5,961	6,374	6,240	6,176	6,433	5,905	5,696	5,541	5,597	5,349	5,790
Utilities	2,306	2,314	2,376	2,615	2,468	2,526	2,557	2,488	2,314	2,372	2,375
Service-producing industries	**66,278**	**70,041**	**72,264**	**74,324**	**76,748**	**78,740**	**80,679**	**83,755**	**86,638**	**89,552**	**91,561**
Wholesale trade	4,405	4,731	4,469	4,789	4,932	5,331	5,364	5,491	5,537	6,058	6,499
Retail trade	5,012	5,174	5,483	5,758	6,050	6,322	6,444	6,788	7,228	7,625	7,848
Transportation and warehousing	*	*	*	*	6,590	6,660	6,949	7,268	7,115	7,239	7,150
Information and cultural services	*	*	*	*	3,618	3,818	4,059	4,231	4,589	4,758	4,780
Finance, insurance, real estate and leasing	20,393	21,853	22,461	22,950	23,606	23,904	24,662	25,586	26,799	27,996	28,616
Professional, scientific and technical services	3,202	3,342	3,507	3,524	4,012	4,482	4,410	4,564	4,708	4,672	4,770
Administration and support, waste mgmt.	1,671	1,815	2,003	2,026	2,012	2,046	2,043	2,052	2,188	2,248	2,298
Education	4,252	4,373	4,749	5,191	5,406	5,614	5,771	5,851	5,990	6,160	6,244
Health care and social assistance	6,656	7,013	7,180	7,288	7,224	7,257	7,308	7,696	7,859	8,106	8,384
Arts, entertainment and recreation	924	1,011	1,045	1,069	1,128	1,120	1,214	1,287	1,330	1,357	1,426
Accommodation and food services	3,152	3,340	3,503	3,528	3,594	3,559	3,546	3,682	3,785	3,678	3,735
Other services	2,149	2,223	2,352	2,463	2,812	2,778	2,836	2,978	3,071	3,163	3,166
Public administration	5,685	5,769	5,803	5,774	5,764	5,849	6,075	6,281	6,437	6,492	6,645
GDP at basic prices	**92,110**	**96,548**	**99,129**	**101,306**	**104,554**	**105,960**	**109,176**	**114,229**	**115,647**	**118,240**	**121,203**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Goods-producing industries	**2.4**	**1.1**	**0.0**	**3.4**	**-2.1**	**4.7**	**6.9**	**-4.8**	**-1.1**	**3.3**
Agriculture and related	-8.2	6.7	7.9	*	*	11.5	9.7	3.2	2.6	0.0
Fishing, trapping and related	-12.4	-25.8	-8.5	*	*	0.0	4.4	-2.1	4.7	2.7
Forestry and related	*	*	*	*	-3.4	9.3	3.1	-7.6	-0.2	4.2
Mining and related	4.8	8.2	*	*	*	*	7.5	1.5	-1.1	1.6
Other manufacturing	*	*	*	*	*	*	35.3	-14.9	-3.3	1.2
Total manufacturing	0.3	1.1	0.1	5.8	-2.1	14.5	18.1	-9.3	0.9	3.1
Construction	6.9	-2.1	-1.0	4.2	-8.2	-3.5	-2.7	1.0	-4.4	8.2
Utilities	0.3	2.7	10.1	-5.6	2.4	1.2	-2.7	-7.0	2.5	0.1
Service-producing industries	**5.7**	**3.2**	**2.9**	**3.3**	**2.6**	**2.5**	**3.8**	**3.4**	**3.4**	**2.2**
Wholesale trade	7.4	-5.5	7.2	3.0	8.1	0.6	2.4	0.8	9.4	7.3
Retail trade	3.2	6.0	5.0	5.1	4.5	1.9	5.3	6.5	5.5	2.9
Transportation and warehousing	*	*	*	*	1.1	4.3	4.6	-2.1	1.7	-1.2
Information and cultural services	*	*	*	*	5.5	6.3	4.2	8.5	3.7	0.5
Finance, insurance, real estate and leasing	7.2	2.8	2.2	2.9	1.3	3.2	3.7	4.7	4.5	2.2
Professional, scientific and technical services	4.4	4.9	0.5	13.8	11.7	-1.6	3.5	3.2	-0.8	2.1
Administration and support, waste mgmt.	8.6	10.4	1.1	-0.7	1.7	-0.1	0.4	6.6	2.7	2.2
Education	2.8	8.6	9.3	4.1	3.8	2.8	1.4	2.4	2.8	1.4
Health care and social assistance	5.4	2.4	1.5	-0.9	0.5	0.7	5.3	2.1	3.1	3.4
Arts, entertainment and recreation	9.4	3.4	2.3	5.5	-0.7	8.4	6.0	3.3	2.0	5.1
Accommodation and food services	6.0	4.9	0.7	1.9	-1.0	-0.4	3.8	2.8	-2.8	1.5
Other services	3.4	5.8	4.7	14.2	-1.2	2.1	5.0	3.1	3.0	0.1
Public administration	1.5	0.6	-0.5	-0.2	1.5	3.9	3.4	2.5	0.9	2.4
GDP at basic prices	**4.8**	**2.7**	**2.2**	**3.2**	**1.3**	**3.0**	**4.6**	**1.2**	**2.2**	**2.5**

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.
2. Data for the period prior to 1997 does not sum to the published total due to the inclusion of an adjusting entry.

* Data has been suppressed due to confidentiality requirements.

Source: BC Stats and Statistics Canada

Table 4. High Technology GDP (Constant Dollar) at Basic Prices,[1] by Province and State, 1993-2003

		Constant (Cdn $ million)[2]										
Province		**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Canada	Manufacturing	13,834	14,605	16,106	16,150	18,018	19,230	24,421	30,615	27,584	26,375	25,982
	Services	8,864	10,441	10,739	11,186	13,270	16,132	18,943	20,401	22,471	23,543	24,129
	Total	22,638	25,032	26,795	27,304	31,288	35,361	43,364	51,017	50,056	49,918	50,111
British Columbia	Manufacturing	443	484	498	650	743	818	1,076	1,749	1,347	1,105	1,154
	Services	1,224	1,340	1,432	1,525	1,709	1,930	1,904	1,948	2,280	2,344	2,396
	Total	1,673	1,830	1,938	2,175	2,452	2,747	2,980	3,697	3,627	3,448	3,550
Alberta	Manufacturing	402	509	567	764	911	1,042	1,048	1,051	925	1,023	1,061
	Services	776	879	968	1,288	1,791	2,341	2,593	2,648	2,899	3,250	3,269
	Total	1,178	1,394	1,542	2,063	2,702	3,383	3,640	3,699	3,824	4,273	4,330
Ontario	Manufacturing	6,671	6,691	7,836	7,607	8,765	9,543	11,526	14,215	11,903	11,441	11,692
	Services	4,169	5,391	5,377	5,195	6,177	7,466	9,439	10,624	11,788	12,151	12,501
	Total	10,839	12,084	13,213	12,801	14,942	17,009	20,965	24,839	23,691	23,592	24,193
Quebec	Manufacturing	5,477	6,182	6,488	6,378	6,679	6,898	9,786	12,269	12,032	11,582	10,866
	Services	2,056	2,144	2,298	2,428	2,733	3,345	3,872	4,066	4,352	4,571	4,679
	Total	7,506	8,268	8,733	8,779	9,412	10,243	13,658	16,335	16,384	16,153	15,545
United States	Manufacturing	-	-	-	-	479,133	560,173	584,715	611,036	590,483	-	-
	Services	-	-	-	-	281,654	341,374	387,389	410,469	430,406	-	-
	Total	-	-	-	-	760,787	901,547	972,105	1,021,505	1,020,889	-	-
California	Manufacturing	-	-	-	-	96,900	118,571	134,907	144,597	135,360	-	-
	Services	-	-	-	-	48,282	58,718	66,989	70,934	74,473	-	-
	Total	-	-	-	-	145,182	177,289	201,896	215,531	209,833	-	-
Colorado	Manufacturing	-	-	-	-	9,011	8,877	9,448	10,691	8,715	-	-
	Services	-	-	-	-	8,595	10,474	11,988	12,689	13,332	-	-
	Total	-	-	-	-	17,606	19,351	21,436	23,380	22,047	-	-
Massachusetts	Manufacturing	-	-	-	-	21,183	24,745	25,401	29,783	28,135	-	-
	Services	-	-	-	-	14,412	17,535	20,018	21,195	22,256	-	-
	Total	-	-	-	-	35,595	42,280	45,419	50,978	50,392	-	-
New Hampshire	Manufacturing	-	-	-	-	6,059	7,103	5,850	6,575	5,059	-	-
	Services	-	-	-	-	1,019	1,241	1,419	1,502	1,577	-	-
	Total	-	-	-	-	7,077	8,343	7,269	8,077	6,636	-	-
Oregon	Manufacturing	-	-	-	-	15,959	20,779	22,285	34,054	31,515	-	-
	Services	-	-	-	-	2,528	3,071	3,498	3,705	3,888	-	-
	Total	-	-	-	-	18,488	23,850	25,783	37,758	35,403	-	-
Washington	Manufacturing	-	-	-	-	13,149	17,760	18,033	18,352	19,822	-	-
	Services	-	-	-	-	9,962	12,153	13,930	14,742	15,495	-	-
	Total	-	-	-	-	23,111	29,912	31,964	33,095	35,318	-	-

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.
2. Figures for U.S. converted from U.S. dollar data using an average annual exchange rate; the U.S. uses 1996 as its base year for calculating GDP, whereas in Canada, the base year in use is 1997.

Source: BC Stats, Statistics Canada and the US Bureau of Economic Analysis

Table 4 (ctd). High Technology GDP (Constant Dollar) at Basic Prices,[1] by Province and State, 1993-2003

		% change from previous year									
Province		**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Canada	Manufacturing	5.6	10.3	0.3	11.6	6.7	27.0	25.4	-9.9	-4.4	-1.5
	Services	17.8	2.8	4.2	18.6	21.6	17.4	7.7	10.1	4.8	2.5
	Total	10.6	7.0	1.9	14.6	13.0	22.6	17.6	-1.9	-0.3	0.4
British Columbia	Manufacturing	9.2	3.0	30.4	14.3	10.1	31.5	62.6	-23.0	-18.0	4.5
	Services	9.4	6.9	6.5	12.1	12.9	-1.3	2.3	17.0	2.8	2.2
	Total	9.4	5.9	12.3	12.7	12.1	8.5	24.1	-1.9	-4.9	3.0
Alberta	Manufacturing	26.8	11.3	34.8	19.2	14.4	0.6	0.4	-12.1	10.7	3.7
	Services	13.2	10.1	33.1	39.0	30.7	10.8	2.1	9.5	12.1	0.6
	Total	18.3	10.6	33.8	30.9	25.2	7.6	1.6	3.4	11.8	1.3
Ontario	Manufacturing	0.3	17.1	-2.9	15.2	8.9	20.8	23.3	-16.3	-3.9	2.2
	Services	29.3	-0.3	-3.4	18.9	20.9	26.4	12.6	11.0	3.1	2.9
	Total	11.5	9.3	-3.1	16.7	13.8	23.3	18.5	-4.6	-0.4	2.5
Quebec	Manufacturing	12.9	5.0	-1.7	4.7	3.3	41.9	25.4	-1.9	-3.7	-6.2
	Services	4.3	7.2	5.7	12.6	22.4	15.7	5.0	7.0	5.0	2.4
	Total	10.2	5.6	0.5	7.2	8.8	33.3	19.6	0.3	-1.4	-3.8
United States	Manufacturing	-	-	-	-	16.9	4.4	4.5	-3.4	-	-
	Services	-	-	-	-	21.2	13.5	6.0	4.9	-	-
	Total	-	-	-	-	18.5	7.8	5.1	-0.1	-	-
California	Manufacturing	-	-	-	-	22.4	13.8	7.2	-6.4	-	-
	Services	-	-	-	-	21.6	14.1	5.9	5.0	-	-
	Total	-	-	-	-	22.1	13.9	6.8	-2.6	-	-
Colorado	Manufacturing	-	-	-	-	-1.5	6.4	13.2	-18.5	-	-
	Services	-	-	-	-	21.9	14.5	5.8	5.1	-	-
	Total	-	-	-	-	9.9	10.8	9.1	-5.7	-	-
Massachusetts	Manufacturing	-	-	-	-	16.8	2.7	17.3	-5.5	-	-
	Services	-	-	-	-	21.7	14.2	5.9	5.0	-	-
	Total	-	-	-	-	18.8	7.4	12.2	-1.2	-	-
New Hampshire	Manufacturing	-	-	-	-	17.2	-17.6	12.4	-23.1	-	-
	Services	-	-	-	-	21.8	14.3	5.9	5.0	-	-
	Total	-	-	-	-	17.9	-12.9	11.1	-17.8	-	-
Oregon	Manufacturing	-	-	-	-	30.2	7.2	52.8	-7.5	-	-
	Services	-	-	-	-	21.5	13.9	5.9	4.9	-	-
	Total	-	-	-	-	29.0	8.1	46.4	-6.2	-	-
Washington	Manufacturing	-	-	-	-	35.1	1.5	1.8	8.0	-	-
	Services	-	-	-	-	22.0	14.6	5.8	5.1	-	-
	Total	-	-	-	-	29.4	6.9	3.5	6.7	-	-

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.

Source: BC Stats, Statistics Canada and the US Bureau of Economic Analysis

Table 5. High Technology GDP (Current Dollar) at Basic Prices,[1] by Province and State, 1993-2003

		Current Dollars ($ million)										
Province		**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Canada	Manufacturing	13,673	14,484	16,125	16,537	18,018	18,109	22,750	26,860	25,935	25,461	23,479
	Services	8,822	10,026	10,503	11,230	13,270	16,252	18,695	20,044	21,658	21,986	22,180
	Total	22,495	24,510	26,627	27,767	31,288	34,361	41,445	46,904	47,593	47,447	45,658
British Columbia	Manufacturing	461	492	637	770	743	734	920	1,310	1,161	904	891
	Services	1,233	1,305	1,414	1,445	1,709	1,962	1,858	1,880	2,116	2,144	2,280
	Total	1,694	1,797	2,050	2,214	2,452	2,696	2,777	3,190	3,277	3,048	3,170
Alberta	Manufacturing	469	603	697	895	911	1,071	1,132	1,517	1,481	1,152	1,042
	Services	752	846	933	1,310	1,791	2,362	2,696	2,583	2,954	2,951	2,926
	Total	1,221	1,448	1,631	2,205	2,702	3,433	3,828	4,099	4,435	4,103	3,968
Ontario	Manufacturing	7,097	6,756	7,597	7,595	8,765	9,064	9,595	10,857	9,939	10,062	9,586
	Services	4,074	5,016	5,116	5,221	6,177	7,476	9,250	10,593	11,298	11,134	11,400
	Total	11,170	11,772	12,713	12,816	14,942	16,540	18,845	21,450	21,237	21,196	20,985
Quebec	Manufacturing	4,830	5,817	6,320	6,350	6,679	6,334	10,075	12,058	11,896	11,989	10,719
	Services	2,154	2,183	2,397	2,524	2,733	3,384	3,771	3,951	4,253	4,537	4,412
	Total	6,984	7,999	8,717	8,874	9,412	9,718	13,846	16,009	16,149	16,526	15,131
United States	Manufacturing	-	-	-	-	476,493	555,198	572,149	585,927	563,823	-	-
	Services	-	-	-	-	284,276	347,673	403,516	440,916	466,200	-	-
	Total	-	-	-	-	760,769	902,871	975,666	1,026,843	1,030,023	-	-
California	Manufacturing	-	-	-	-	96,134	114,924	125,651	130,430	120,520	-	-
	Services	-	-	-	-	48,614	59,595	69,517	75,924	80,244	-	-
	Total	-	-	-	-	144,749	174,520	195,168	206,354	200,764	-	-
Colorado	Manufacturing	-	-	-	-	9,025	8,887	9,400	10,440	8,538	-	-
	Services	-	-	-	-	8,641	10,608	12,412	13,552	14,320	-	-
	Total	-	-	-	-	17,666	19,495	21,812	23,992	22,857	-	-
Massachusetts	Manufacturing	-	-	-	-	20,851	23,870	23,851	26,914	25,131	-	-
	Services	-	-	-	-	14,507	17,789	20,764	22,676	23,965	-	-
	Total	-	-	-	-	35,358	41,659	44,615	49,590	49,096	-	-
New Hampshire	Manufacturing	-	-	-	-	5,848	6,558	5,172	5,453	4,039	-	-
	Services	-	-	-	-	1,024	1,257	1,470	1,605	1,696	-	-
	Total	-	-	-	-	6,873	7,815	6,642	7,058	5,735	-	-
Oregon	Manufacturing	-	-	-	-	15,323	18,344	18,220	24,407	20,085	-	-
	Services	-	-	-	-	2,547	3,121	3,634	3,970	4,196	-	-
	Total	-	-	-	-	17,870	21,465	21,854	28,376	24,282	-	-
Washington	Manufacturing	-	-	-	-	13,261	18,068	18,213	18,743	20,585	-	-
	Services	-	-	-	-	10,009	12,296	14,408	15,729	16,618	-	-
	Total	-	-	-	-	23,270	30,364	32,622	34,472	37,203	-	-

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.
2. Figures for U.S. converted from U.S. dollar data using an average annual exchange rate.

Source: BC Stats, Statistics Canada and the US Bureau of Economic Analysis

Table 5 (ctd). High Technology GDP (Current Dollar) at Basic Prices,[1] by Province and State, 1993-2003

		% change from previous year									
Province		**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
Canada	Manufacturing	5.9	11.3	2.6	9.0	0.5	25.6	18.1	-3.4	-1.8	-7.8
	Services	13.6	4.8	6.9	18.2	22.5	15.0	7.2	8.1	1.5	0.9
	Total	9.0	8.6	4.3	12.7	9.8	20.6	13.2	1.5	-0.3	-3.8
British Columbia	Manufacturing	6.8	29.3	20.9	-3.5	-1.1	25.3	42.5	-11.4	-22.2	-1.4
	Services	5.9	8.3	2.2	18.3	14.8	-5.3	1.2	12.6	1.3	6.3
	Total	6.1	14.1	8.0	10.7	9.9	3.0	14.9	2.7	-7.0	4.0
Alberta	Manufacturing	28.4	15.7	28.3	1.8	17.5	5.7	33.9	-2.3	-22.2	-9.5
	Services	12.5	10.4	40.4	36.6	31.9	14.1	-4.2	14.4	-0.1	-0.8
	Total	18.6	12.6	35.2	22.5	27.1	11.5	7.1	8.2	-7.5	-3.3
Ontario	Manufacturing	-4.8	12.4	0.0	15.4	3.4	5.9	13.2	-8.5	1.2	-4.7
	Services	23.1	2.0	2.1	18.3	21.0	23.7	14.5	6.7	-1.5	2.4
	Total	5.4	8.0	0.8	16.6	10.7	13.9	13.8	-1.0	-0.2	-1.0
Quebec	Manufacturing	20.4	8.6	0.5	5.2	-5.2	59.1	19.7	-1.3	0.8	-10.6
	Services	1.3	9.8	5.3	8.3	23.8	11.4	4.8	7.7	6.7	-2.8
	Total	14.5	9.0	1.8	6.1	3.3	42.5	15.6	0.9	2.3	-8.4
United States	Manufacturing	-	-	-	-	16.5	3.1	2.4	-3.8	-	-
	Services	-	-	-	-	22.3	16.1	9.3	5.7	-	-
	Total	-	-	-	-	18.7	8.1	5.2	0.3	-	-
California	Manufacturing	-	-	-	-	19.5	9.3	3.8	-7.6	-	-
	Services	-	-	-	-	22.6	16.6	9.2	5.7	-	-
	Total	-	-	-	-	20.6	11.8	5.7	-2.7	-	-
Colorado	Manufacturing	-	-	-	-	-1.5	5.8	11.1	-18.2	-	-
	Services	-	-	-	-	22.8	17.0	9.2	5.7	-	-
	Total	-	-	-	-	10.4	11.9	10.0	-4.7	-	-
Massachusetts	Manufacturing	-	-	-	-	14.5	-0.1	12.8	-6.6	-	-
	Services	-	-	-	-	22.6	16.7	9.2	5.7	-	-
	Total	-	-	-	-	17.8	7.1	11.2	-1.0	-	-
New Hampshire	Manufacturing	-	-	-	-	12.1	-21.1	5.4	-25.9	-	-
	Services	-	-	-	-	22.7	16.9	9.2	5.7	-	-
	Total	-	-	-	-	13.7	-15.0	6.3	-18.7	-	-
Oregon	Manufacturing	-	-	-	-	19.7	-0.7	34.0	-17.7	-	-
	Services	-	-	-	-	22.5	16.5	9.2	5.7	-	-
	Total	-	-	-	-	20.1	1.8	29.8	-14.4	-	-
Washington	Manufacturing	-	-	-	-	36.3	0.8	2.9	9.8	-	-
	Services	-	-	-	-	22.8	17.2	9.2	5.6	-	-
	Total	-	-	-	-	30.5	7.4	5.7	7.9	-	-

1. Industry-based GDP data are now reported at basic prices. Previously a "factor cost" method of calculation was used. The difference between the basic price and factor cost concepts is that the factor cost estimate includes all subsidies and excludes all indirect taxes.

Source: BC Stats, Statistics Canada and the US Bureau of Economic Analysis

Table 6. High Technology Sector Revenues,[1] 1993-2003

$ million

NAICS	INDUSTRY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing		**961**	**1,163**	**1,323**	**1,539**	**1,763**	**1,845**	**2,267**	**2,819**	**2,664**	**2,137**	**2,045**
325	Chemicals	*	*	*	*	*	*	*	327	310	*	338
	Computer & other Electronics	*	*	*	*	*	*	*	2,163	1,903	*	1,222
33641	Aerospace	77	101	113	*	*	*	138	136	258	296	266
33911	Medical equipment	96	105	108	113	132	137	167	193	193	221	219
Services		**1,862**	**2,085**	**2,394**	**2,601**	**3,016**	**3,101**	**3,326**	**3,556**	**3,890**	**3,975**	**4,300**
51	Information services	367	314	291	352	328	716	731	842	937	916	1,074
541510	Computer systems design	420	744	898	1,082	1,010	1,104	1,441	1,573	1,514	1,644	1,804
541330	Engineering services	1,074	1,027	1,205	1,167	1,678	1,281	1,154	1,142	1,439	1,415	1,422
High Technology Sector Total		**2,823**	**3,249**	**3,717**	**4,140**	**4,778**	**4,946**	**5,593**	**6,375**	**6,554**	**6,112**	**6,344**

% change from previous year

NAICS	INDUSTRY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing		**21.1**	**13.7**	**16.3**	**14.5**	**4.7**	**22.9**	**24.4**	**-5.5**	**-19.8**	**-4.3**
325	Chemicals	*	*	*	*	*	*	*	-5.3	*	*
	Computer & other Electronics	*	*	*	*	*	*	*	-12.0	*	*
33641	Aerospace	31.3	12.3	*	*	*	*	-1.6	90.6	14.5	-10.0
33911	Medical equipment	8.5	3.2	4.6	16.8	4.3	21.5	15.8	-0.4	14.8	-1.0
Services		**12.0**	**14.8**	**8.7**	**15.9**	**2.8**	**7.3**	**6.9**	**9.4**	**2.2**	**8.2**
51	Information services	-14.4	-7.2	20.6	-6.7	118.3	2.1	15.2	11.3	-2.2	17.2
541510	Computer systems design	76.8	20.7	20.6	-6.7	9.3	30.5	9.2	-3.8	8.6	9.8
541330	Engineering services	-4.4	17.3	-3.1	43.7	-23.7	-9.9	-1.1	26.0	-1.7	0.5
High Technology Sector Total		**15.1**	**14.4**	**11.4**	**15.4**	**3.5**	**13.1**	**14.0**	**2.8**	**-6.7**	**3.8**

1. Note that revenues for the service industries are collected on a company rather than an establishment basis. As a result, revenues for those industries represent the entire Canadian earnings of companies headquartered in British Columbia. Totals are calculated using unrounded data.

* Data has been suppressed due to confidentiality requirements.

Source: BC Stats and Statistics Canada

Table 7. High Technology Sector Revenues,[1] by Province and State, 1993-2003

Cdn $ million[1]

Province	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	45,477	52,492	59,482	61,939	66,024	74,214	85,583	104,031	98,542	90,649	88,941
British Columbia	2,823	3,249	3,717	4,140	4,778	4,946	5,593	6,375	6,554	6,112	6,344
Alberta	2,196	2,591	3,244	4,668	5,584	6,630	7,027	8,497	9,013	7,811	7,375
Ontario	22,948	27,605	31,643	29,985	31,080	34,952	38,987	46,504	45,577	41,909	41,756
Quebec	15,146	16,583	18,151	19,886	21,062	23,563	29,581	37,762	32,608	30,146	29,141
United States	-	-	-	-	1,497,277	1,752,222	1,869,102	2,007,252	2,006,144	-	-
California	-	-	-	-	288,813	341,467	368,742	392,838	390,117	-	-
Colorado	-	-	-	-	34,832	37,866	39,605	42,916	40,471	-	-
Massachusetts	-	-	-	-	66,895	77,806	83,201	90,179	90,959	-	-
New Hampshire	-	-	-	-	14,449	17,118	13,883	14,729	12,630	-	-
Oregon	-	-	-	-	26,392	31,152	28,145	32,472	27,776	-	-
Washington	-	-	-	-	60,623	79,815	85,291	80,601	85,864	-	-

% change from previous year

Province	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	15.4	13.3	4.1	6.6	12.4	15.3	21.6	-5.3	-8.0	-1.9
British Columbia	15.1	14.4	11.4	15.4	3.5	13.1	14.0	2.8	-6.7	3.8
Alberta	18.0	25.2	43.9	19.6	18.7	6.0	20.9	6.1	-13.3	-5.6
Ontario	20.3	14.6	-5.2	3.7	12.5	11.5	19.3	-2.0	-8.0	-0.4
Quebec	9.5	9.5	9.6	5.9	11.9	25.5	27.7	-13.6	-7.6	-3.3
United States	-	-	-	-	17.0	6.7	7.4	-0.1	-	-
California	-	-	-	-	18.2	8.0	6.5	-0.7	-	-
Colorado	-	-	-	-	8.7	4.6	8.4	-5.7	-	-
Massachusetts	-	-	-	-	16.3	6.9	8.4	0.9	-	-
New Hampshire	-	-	-	-	18.5	-18.9	6.1	-14.3	-	-
Oregon	-	-	-	-	18.0	-9.7	15.4	-14.5	-	-
Washington	-	-	-	-	31.7	6.9	-5.5	6.5	-	-

1. Figures for U.S. converted from U.S. dollar data using an average annual exchange rate.

Source: BC Stats, Statistics Canada and the US Bureau of Economic Analysis

Table 8. High Technology Sector Employment,[1] 1993-2003

NAICS	INDUSTRY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing Industries		**10,100**	**8,440**	**8,920**	**9,190**	**10,790**	**11,230**	**13,620**	**15,050**	**15,180**	**13,820**	**13,220**
325	Chemicals	*	*	*	*	*	*	*	940	1,020	*	960
	Computer & other Electronics	*	*	*	*	*	*	*	10,300	10,010	*	8,440
33641	Aerospace	750	810	870	*	*	*	1,610	1,740	1,760	1,710	1,270
33911	Medical equipment	2,260	1,700	1,770	1,740	1,910	2,090	2,080	2,060	2,380	2,530	2,540
Service Industries		**16,800**	**17,470**	**20,940**	**20,470**	**23,640**	**21,980**	**24,270**	**27,410**	**30,290**	**30,020**	**31,810**
51	Information services	2,150	2,130	2,080	2,450	2,730	2,990	3,600	4,540	5,290	5,720	6,220
541510	Computer systems design	6,420	6,370	6,180	7,300	8,140	8,920	10,770	13,570	14,900	15,000	16,610
541330	Engineering services	8,240	8,960	12,680	10,720	12,770	10,070	9,900	9,300	10,100	9,300	8,980
High Technology Sector Total		**26,900**	**25,910**	**29,860**	**29,650**	**34,420**	**33,210**	**37,890**	**42,450**	**45,470**	**43,840**	**45,030**
BC Industrial Aggregate		**1,349,770**	**1,395,750**	**1,444,880**	**1,459,450**	**1,496,760**	**1,508,590**	**1,511,500**	**1,571,810**	**1,593,100**	**1,610,250**	**1,636,780**

% change from previous year

NAICS	INDUSTRY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing Industries		**-16.4**	**5.7**	**3.0**	**17.4**	**4.1**	**21.2**	**10.5**	**0.9**	**-8.9**	**-4.4**
325	Chemicals	*	*	*	*	*	*	*	8.8	*	*
	Computer & other Electronics	*	*	*	*	*	*	*	-2.8	*	*
33641	Aerospace	8.6	7.4	*	*	*	*	8.2	1.1	-2.8	-26.2
33911	Medical equipment	-24.6	3.7	-1.7	9.8	9.8	-0.4	-1.3	15.7	6.1	0.7
Service Industries		**4.0**	**19.9**	**-2.3**	**15.5**	**-7.0**	**10.4**	**12.9**	**10.5**	**-0.9**	**6.0**
51	Information services	-0.6	-2.5	17.7	11.5	9.5	20.6	26.0	16.6	8.0	8.7
541510	Computer systems design	-0.8	-3.0	18.0	11.5	9.6	20.7	26.0	9.8	0.7	10.7
541330	Engineering services	8.8	41.5	-15.5	19.1	-21.1	-1.7	-6.1	8.6	-7.9	-3.4
High Technology Sector Total		**-3.7**	**15.3**	**-0.7**	**16.1**	**-3.5**	**14.1**	**12.0**	**7.1**	**-3.6**	**2.7**
BC Industrial Aggregate		**3.4**	**3.5**	**1.0**	**2.6**	**0.8**	**0.2**	**4.0**	**1.4**	**1.1**	**1.6**

1. Totals and percent changes are calculated using unrounded data.

Source: BC Stats and Statistics Canada

Table 9. Employment by Industry,[1] British Columbia, 1993-2003

Persons (thousands)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Goods Producing Industries	**290.3**	**302.5**	**299.0**	**298.8**	**308.6**	**301.3**	**301.9**	**314.8**	**300.8**	**291.9**	**289.6**
Agriculture and Related	na	na	na	na	na	na	na	na	na	na	na
Fishing and Related	na	na	na	na	na	na	na	na	na	na	na
Forestry and Related	77.5	83.0	80.5	81.2	79.4	73.6	76.8	80.5	70.7	59.3	58.1
Logging and Forestry	*18.2*	*19.6*	*19.8*	*20.1*	*19.7*	*17.6*	*17.8*	*18.3*	*18.1*	*13.4*	*10.2*
Paper and Allied Products	*21.0*	*20.3*	*20.3*	*18.5*	*16.6*	*16.6*	*17.8*	*18.8*	*15.0*	*11.5*	*13.7*
Wood Manufacturing	*38.3*	*43.1*	*40.4*	*42.6*	*43.1*	*39.4*	*41.2*	*43.4*	*37.6*	*34.4*	*34.2*
Mining and Oil and Gas Extraction	10.5	12.3	13.1	11.9	12.8	13.0	10.7	10.6	10.5	10.3	10.5
Other Manufacturing	77.6	80.7	76.1	77.2	83.2	87.8	91.5	98.9	97.8	101.3	99.6
Construction	74.7	74.1	74.8	76.7	80.0	77.2	72.6	74.3	73.7	77.2	81.1
Utilities	8.8	9.0	8.3	8.6	8.6	8.4	9.1	9.4	9.2	9.3	8.6
Service Producing Industries	**1,059.4**	**1,089.7**	**1,142.3**	**1,157.4**	**1,183.0**	**1,198.1**	**1,199.6**	**1,250.4**	**1,284.9**	**1,309.4**	**1,336.6**
Transportation and Warehousing	78.9	84.9	86.7	82.0	83.6	85.1	83.2	83.2	82.4	82.9	83.1
Retail and Wholesale Trade	240.6	240.6	252.0	252.9	255.9	257.8	258.7	271.3	281.4	294.3	307.3
Finance, Insurance and Real Estate	87.3	84.3	87.1	84.6	88.3	89.1	87.4	91.1	89.9	88.4	87.2
Educational and Related	104.1	105.1	112.6	120.5	121.5	122.2	123.6	127.7	132.8	136.1	136.7
Health and Social	129.6	144.3	150.9	154.0	155.7	162.9	167.9	174.5	178.1	183.8	190.8
Accommodation, and Food	127.8	126.2	127.4	132.1	137.3	139.0	139.3	144.8	147.2	147.2	146.7
Amusement, Gambling and Recreation	19.4	22.3	22.9	23.6	23.1	20.6	18.0	19.1	19.6	20.8	22.1
Government	52.9	52.7	51.7	49.5	48.0	48.0	47.9	47.4	47.8	46.4	46.2
BC Industrial Aggregate	**1,349.8**	**1,395.8**	**1,444.9**	**1,459.4**	**1,496.8**	**1,508.6**	**1,511.5**	**1,571.8**	**1,593.1**	**1,610.2**	**1,636.8**
High Technology Sector Total	**26.9**	**25.9**	**29.9**	**29.7**	**34.4**	**33.2**	**37.9**	**42.5**	**45.5**	**43.8**	**45.0**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Goods Producing Industries	**4.2**	**-1.2**	**-0.1**	**3.3**	**-2.4**	**0.2**	**4.3**	**-4.4**	**-3.0**	**-0.8**
Agriculture and Related	na	na	na	na	na	na	na	na	na	na
Fishing and Related	na	na	na	na	na	na	na	na	na	na
Forestry and Related	7.1	-2.9	0.8	-2.3	-7.2	4.3	4.8	-12.1	-16.1	-2.1
Logging and Forestry	7.9	1.2	1.3	-2.0	-10.6	0.8	2.9	-0.8	-26.1	-23.9
Paper and Allied Products	-3.2	-0.1	-8.9	-10.3	0.1	7.1	6.0	-20.2	-23.6	19.6
Wood Manufacturing	12.4	-6.1	5.5	1.0	-8.5	4.7	5.1	-13.3	-8.3	-0.8
Mining and Oil and Gas Extraction	16.6	6.2	-9.2	7.7	1.8	-18.0	-0.4	-0.7	-2.2	2.0
Other Manufacturing	4.0	-5.7	1.5	7.8	5.5	4.2	8.1	-1.1	3.5	-1.6
Construction	-0.8	0.9	2.6	4.4	-3.5	-5.9	2.3	-0.8	4.7	5.0
Utilities	2.2	-6.8	3.4	-0.6	-2.2	8.6	2.7	-1.8	1.1	-7.5
Service Producing Industries	**2.9**	**4.8**	**1.3**	**2.2**	**1.3**	**0.1**	**4.2**	**2.8**	**1.9**	**2.1**
Transportation and Warehousing	7.5	2.1	-5.4	2.0	1.7	-2.2	0.0	-1.0	0.6	0.2
Retail and Wholesale Trade	0.0	4.7	0.4	1.2	0.7	0.4	4.9	3.7	4.6	4.4
Finance, Insurance and Real Estate	-3.4	3.3	-2.9	4.4	0.9	-1.9	4.2	-1.3	-1.7	-1.4
Educational and Related	1.0	7.1	7.0	0.8	0.6	1.1	3.3	4.0	2.5	0.5
Health and Social	11.3	4.6	2.0	1.1	4.7	3.0	3.9	2.1	3.2	3.8
Accommodation, and Food	-1.3	1.0	3.7	3.9	1.3	0.2	4.0	1.6	0.0	-0.4
Amusement, Gambling and Recreation	15.1	2.6	2.9	-1.9	-10.8	-12.7	6.1	2.5	6.1	6.6
Government	-0.3	-1.9	-4.4	-2.9	0.0	-0.4	-1.0	0.9	-3.0	-0.3
BC Industrial Aggregate	**3.4**	**3.5**	**1.0**	**2.6**	**0.8**	**0.2**	**4.0**	**1.4**	**1.1**	**1.6**
High Technology Sector Total	**-3.7**	**15.2**	**-0.7**	**16.1**	**-3.5**	**14.1**	**12.0**	**7.1**	**-3.6**	**2.7**

1. Totals and percent changes are calculated using unrounded data.

na: Data not available for specific industry.

Source: BC Stats and Statistics Canada

Table 10. High Technology Sector Employment, by Province and State, 1993-2003

Province	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	299,390	304,460	323,550	345,040	378,320	402,820	442,700	476,240	487,520	472,060	461,790
British Columbia	26,900	25,910	29,860	29,650	34,420	33,210	37,890	42,450	45,470	43,840	45,030
Alberta	17,070	19,250	18,830	25,670	30,430	35,960	41,400	42,620	46,020	44,660	43,100
Ontario	134,140	142,140	149,580	155,060	163,180	174,270	192,610	209,360	210,560	205,360	200,900
Quebec	93,940	90,730	98,650	104,740	116,360	122,300	130,090	139,220	140,910	134,040	131,540
United States	-	-	-	-	5,082,210	5,351,860	5,483,050	5,695,540	5,694,090	5,192,310	-
California	-	-	-	-	887,250	916,270	929,030	976,310	977,760	878,360	-
Colorado	-	-	-	-	124,220	131,430	140,280	149,830	150,650	129,650	-
Massachusetts	-	-	-	-	240,960	245,060	243,010	252,200	251,500	215,340	-
New Hampshire	-	-	-	-	38,230	43,050	43,250	45,780	48,510	39,850	-
Oregon	-	-	-	-	68,620	74,630	74,370	77,010	77,810	68,440	-
Washington	-	-	-	-	189,820	203,470	202,030	208,270	204,800	182,660	-

% change from previous year

Province	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	1.7	6.3	6.6	9.6	6.5	9.9	7.6	2.4	-3.2	-2.2
British Columbia	-3.7	15.3	-0.7	16.1	-3.5	14.1	12.0	7.1	-3.6	2.7
Alberta	12.8	-2.2	36.4	18.5	18.2	15.1	3.0	8.0	-3.0	-3.5
Ontario	6.0	5.2	3.7	5.2	6.8	10.5	8.7	0.6	-2.5	-2.2
Quebec	-3.4	8.7	6.2	11.1	5.1	6.4	7.0	1.2	-4.9	-1.9
United States	-	-	-	-	5.3	2.5	3.9	0.0	-8.8	-
California	-	-	-	-	3.3	1.4	5.1	0.1	-10.2	-
Colorado	-	-	-	-	5.8	6.7	6.8	0.5	-13.9	-
Massachusetts	-	-	-	-	1.7	-0.8	3.8	-0.3	-14.4	-
New Hampshire	-	-	-	-	12.6	0.5	5.8	6.0	-17.9	-
Oregon	-	-	-	-	8.8	-0.3	3.5	1.0	-12.0	-
Washington	-	-	-	-	7.2	-0.7	3.1	-1.7	-10.8	-

Source: BC Stats and Statistics Canada and the US Bureau of Economic Analysis

Table 11. High Technology Sector Wages and Salaries,[1] 1993-2003

Value ($ million)

NAICS INDUSTRY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing Industries	**282.3**	**304.0**	**324.2**	**365.3**	**386.4**	**447.5**	**506.4**	**555.4**	**632.9**	**626.6**	**616.0**
325 Chemicals	*	*	*	*	*	*	*	55.1	46.4	*	47.8
Computer & other Electronics	*	*	*	*	*	*	*	382.6	451.6	*	414.4
33641 Aerospace	36.8	36.8	35.4	*	*	*	54.1	48.7	63.9	87.2	71.1
33911 Medical equipment	37.4	40.3	40.2	45.5	50.5	57.4	62.4	69.1	71.0	80.9	82.7
Service Industries	**843.4**	**880.5**	**1,203.4**	**1,170.2**	**1,400.3**	**1,237.2**	**1,301.1**	**1,580.4**	**1,785.4**	**1,747.8**	**1,878.4**
51 Information services	81.1	80.1	84.7	100.8	119.7	130.9	161.4	210.9	243.7	270.5	309.5
541510 Computer systems design	323.8	319.3	336.2	401.4	477.0	522.3	644.0	840.4	891.0	910.6	999.5
541330 Engineering services	438.6	481.1	782.6	668.0	803.6	583.9	495.7	529.2	650.7	566.7	569.5
High Technology Sector Total	**1,125.8**	**1,184.4**	**1,527.6**	**1,535.5**	**1,786.7**	**1,684.7**	**1,807.5**	**2,135.8**	**2,418.3**	**2,374.4**	**2,494.5**
BC Industrial Aggregate	**40,916.5**	**43,488.8**	**46,363.7**	**47,812.7**	**49,851.4**	**50,583.7**	**51,305.4**	**54,325.5**	**55,446.7**	**56,622.9**	**58,130.3**

% change from previous year

NAICS INDUSTRY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Manufacturing Industries	**7.7**	**6.7**	**12.7**	**5.8**	**15.8**	**13.2**	**9.7**	**14.0**	**-1.0**	**-1.7**
325 Chemicals	*	*	*	*	*	*	*	-15.7	*	*
Computer & other Electronics	*	*	*	*	*	*	*	18.1	*	*
33641 Aerospace	0.0	-3.8	*	*	*	*	-10.1	31.2	36.6	-18.5
33911 Medical equipment	7.9	-0.4	13.3	11.0	13.6	8.6	10.7	2.7	14.0	2.2
Service Industries	**4.4**	**36.7**	**-2.8**	**19.7**	**-11.6**	**5.2**	**21.5**	**13.0**	**-2.1**	**7.5**
51 Information services	-1.2	5.7	19.0	18.7	9.4	23.3	30.7	15.6	11.0	14.4
541510 Computer systems design	-1.4	5.3	19.4	18.8	9.5	23.3	30.5	6.0	2.2	9.8
541330 Engineering services	9.7	62.7	-14.6	20.3	-27.3	-15.1	6.8	23.0	-12.9	0.5
High Technology Sector Total	**5.2**	**29.0**	**0.5**	**16.4**	**-5.7**	**7.3**	**18.2**	**13.2**	**-1.8**	**5.1**
BC Industrial Aggregate	**6.3**	**6.6**	**3.1**	**4.3**	**1.5**	**1.4**	**5.9**	**2.1**	**2.1**	**2.7**

1. Totals and percent changes are calculated using unrounded data.

Source: BC Stats and Statistics Canada

Table 12. High Technology Sector Average Weekly Earnings,[1] 1993-2003

Dollars per employee week (including overtime)

NAICS	INDUSTRY	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Manufacturing Industries	**540**	**690**	**700**	**760**	**690**	**760**	**710**	**710**	**800**	**870**	**890**
325	Chemicals	*	*	*	*	*	*	*	1,120	870	*	950
	Computer & other Electronics	*	*	*	*	*	*	*	710	870	*	940
33641	Aerospace	940	870	780	*	*	*	640	540	700	980	1,080
33911	Medical equipment	320	450	440	500	510	530	570	640	570	610	620
	Service Industries	**960**	**970**	**1,100**	**1,100**	**1,140**	**1,080**	**1,030**	**1,110**	**1,130**	**1,120**	**1,130**
51	Information services	720	720	780	790	840	840	860	890	880	910	960
541510	Computer systems design	970	960	1,040	1,050	1,120	1,120	1,150	1,190	1,150	1,160	1,150
541330	Engineering services	1,020	1,030	1,180	1,190	1,210	1,110	960	1,090	1,240	1,170	1,220
	High Technology Sector Total	**800**	**880**	**980**	**990**	**1,000**	**970**	**910**	**960**	**1,020**	**1,040**	**1,060**
	BC Industrial Aggregate	**580**	**600**	**620**	**630**	**640**	**640**	**650**	**660**	**670**	**670**	**680**

% change from previous year

NAICS	INDUSTRY	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Manufacturing Industries	**27.8**	**1.4**	**8.6**	**-9.2**	**10.1**	**-6.6**	**0.0**	**12.7**	**8.7**	**2.3**
325	Chemicals	*	*	*	*	*	*	*	-22.3	*	*
	Computer & other Electronics	*	*	*	*	*	*	*	22.5	*	*
33641	Aerospace	-7.4	-10.3	*	*	*	*	-15.6	29.6	40.0	10.2
33911	Medical equipment	40.6	-2.2	13.6	2.0	3.9	7.5	12.3	-10.9	7.0	1.6
	Service Industries	**1.0**	**13.4**	**0.0**	**3.6**	**-5.3**	**-4.6**	**7.8**	**1.8**	**-0.9**	**0.9**
51	Information services	0.0	8.3	1.3	6.3	0.0	2.4	3.5	-1.1	3.4	5.5
541510	Computer systems design	-1.0	8.3	1.0	6.7	0.0	2.7	3.5	-3.4	0.9	-0.9
541330	Engineering services	1.0	14.6	0.8	1.7	-8.3	-13.5	13.5	13.8	-5.6	4.3
	High Technology Sector Total	**10.0**	**11.4**	**1.0**	**1.0**	**-3.0**	**-6.2**	**5.5**	**6.3**	**2.0**	**1.9**
	BC Industrial Aggregate	**2.8**	**3.0**	**2.1**	**1.7**	**0.7**	**1.2**	**1.8**	**0.7**	**1.0**	**1.0**

1. Totals and percent changes are calculated using unrounded data.

Source: BC Stats and Statistics Canada

Table 13. High Technology Sector Average Weekly Earnings,[1] by Province, 1993-2003

Province	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	780	810	830	860	880	910	940	990	1,020	1,030	1,060
British Columbia	800	880	980	990	1,000	970	910	960	1,020	1,040	1,060
Alberta	830	940	990	930	980	970	900	980	1,010	1,100	1,110
Ontario	800	810	840	900	940	990	1,020	1,100	1,140	1,130	1,160
Quebec	810	860	850	840	850	870	930	950	960	960	1,000

% change from previous year

Province	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Canada	4.5	2.3	3.2	3.0	3.3	2.4	5.8	3.2	0.6	2.9
British Columbia	9.2	11.9	1.2	0.2	-2.3	-6.0	5.5	5.7	1.8	2.3
Alberta	12.9	5.0	-5.6	5.1	-0.7	-7.1	9.1	2.8	8.3	1.2
Ontario	1.4	3.2	7.3	3.9	5.5	3.6	6.9	4.5	-1.6	3.0
Quebec	6.7	-1.4	-0.4	0.5	2.6	6.7	1.9	0.9	0.4	4.7

Source: BC Stats and Statistics Canada

Table 14. High Technology Sector Establishments,[1] by Development Region and Regional District, 2000-2003

Development Region / Regional District		2000			2001			2002			2003		
		Mfg	Service	Total	Mfg	Service	Total	Mfg	Service	Total	Mfg	Service	Total
Vancouver Island/Coast		**110**	**771**	**881**	**101**	**774**	**875**	**110**	**792**	**904**	**107**	**816**	**923**
23	Alberni-Clayoquot	4	9	13	2	13	15	2	11	13	2	11	13
17	Capital	64	520	584	61	542	603	66	565	633	62	576	638
45	Central Coast	0	0	0	0	0	0	0	2	2	0	2	2
25	Comox-Strathcona	16	63	79	14	58	72	16	53	69	17	54	71
19	Cowichan Valley	9	49	58	8	42	50	7	44	51	7	49	56
43	Mount Waddington	0	6	6	0	7	7	1	7	8	2	6	8
21	Nanaimo	17	113	130	16	106	122	18	102	120	17	107	124
27	Powell River	0	11	11	0	6	6	0	8	8	0	11	11
Mainland/Southwest		**595**	**3,095**	**3,690**	**589**	**3,201**	**3,790**	**565**	**3,105**	**3,680**	**548**	**3,147**	**3,709**
09	Fraser Valley	28	88	116	31	98	129	35	91	127	26	107	134
15	Greater Vancouver	555	2,955	3,510	547	3,047	3,594	520	2,957	3,486	514	2,982	3,509
31	Squamish-Lillooet	6	31	37	5	34	39	4	34	38	3	34	37
29	Sunshine Coast	6	21	27	6	22	28	6	23	29	5	24	29
Thompson/Okanagan		**86**	**343**	**429**	**76**	**339**	**415**	**78**	**330**	**408**	**78**	**346**	**424**
35	Central Okanagan	40	137	177	38	132	170	43	135	178	43	158	201
39	Columbia-Shuswap	3	38	41	3	43	46	2	38	40	4	34	38
37	North Okanagan	18	47	65	14	48	62	11	41	52	9	40	49
07	Okanagan-Similkameen	10	35	45	8	35	43	10	34	44	8	36	44
33	Thompson-Nicola	15	86	101	13	81	94	12	82	94	14	78	92
Kootenay		**25**	**100**	**125**	**22**	**92**	**114**	**18**	**93**	**111**	**18**	**94**	**112**
03	Central Kootenay	9	52	61	9	47	56	8	41	49	8	37	45
01	East Kootenay	10	33	43	8	24	32	5	27	32	4	34	38
05	Kootenay Boundary	6	15	21	5	21	26	5	25	30	6	23	29
Cariboo		**27**	**124**	**151**	**27**	**125**	**152**	**23**	**115**	**138**	**17**	**103**	**120**
41	Cariboo	10	33	43	7	36	43	7	34	41	5	33	38
53	Fraser-Fort George	17	91	108	20	89	109	16	81	97	12	70	82
North Coast		**3**	**28**	**31**	**3**	**26**	**29**	**3**	**25**	**28**	**3**	**21**	**25**
49	Kitimat-Stikine	3	20	23	3	17	20	3	14	17	2	16	19
47	Skeena-Queen Charlotte	0	8	8	0	9	9	0	11	11	1	5	6
Nechako		**4**	**28**	**32**	**4**	**26**	**30**	**4**	**26**	**30**	**4**	**24**	**28**
51	Bulkley-Nechako	4	27	31	4	26	30	4	26	30	4	24	28
57	Stikine	0	1	1	0	0	0	0	0	0	0	0	0
Northeast		**9**	**36**	**45**	**4**	**36**	**40**	**8**	**35**	**43**	**7**	**36**	**43**
55	Peace River	8	36	44	3	36	39	7	34	41	6	35	41
59	Northern Rockies	1	0	1	1	0	1	1	1	2	1	1	2
Total[2]		**859**	**4,528**	**5,387**	**826**	**4,622**	**5,448**	**809**	**4,525**	**5,346**	**783**	**4,591**	**5,389**

1. Establishments with zero employees are not included in these figures.
2. Figures do not add to totals because some establishments did not have geographic codes.

Source: BC Stats and Statistics Canada

Table 15. High Technology Sector Establishments,[1] by Industry, 1998-2003

NAICS	Industry	1998	1999	2000	2001	2002	2003
Manufacturing Industries		**838**	**871**	**859**	**826**	**809**	**783**
325	Chemicals	58	65	64	56	53	51
	Computer & other Electronics	402	431	432	400	385	374
33641	Aerospace	58	58	56	53	51	37
33911	Medical equipment	320	317	307	317	320	321
Service Industries		**3,899**	**4,146**	**4,528**	**4,622**	**4,537**	**4,606**
51	Information services	206	212	246	255	258	290
541330	Engineering services	1,934	1,956	1,930	1,845	1,792	1,795
541510	Computer systems design	1,759	1,978	2,352	2,522	2,487	2,521
High Technology Sector		**4,737**	**5,017**	**5,387**	**5,448**	**5,346**	**5,389**

% change from previous year

NAICS	Industry	1999	2000	2001	2002	2003
Manufacturing Industries		**3.9**	**-1.4**	**-3.8**	**-2.1**	**-3.2**
325	Chemicals	12.1	-1.5	-12.5	-5.4	-3.8
	Computer & other Electronics	7.2	0.2	-7.4	-3.8	-2.9
33641	Aerospace	0.0	-3.4	-5.4	-3.8	-27.5
33911	Medical equipment	-0.9	-3.2	3.3	0.9	0.3
Service Industries		**6.3**	**9.2**	**2.1**	**-1.8**	**1.5**
51	Information services	2.9	16.0	3.7	1.2	12.4
541330	Engineering services	1.1	-1.3	-4.4	-2.9	0.2
541510	Computer systems design	12.5	18.9	7.2	-1.4	1.4
High Technology Sector		**5.9**	**7.4**	**1.1**	**-1.9**	**0.8**

1. Establishments with zero employees are not included in these figures.

Source: BC Stats and Statistics Canada

Table 16. High Technology Sector Establishments, by Industry and Establishment Size, 2003

Number of establishments, by number of employees

NAICS	Industry	1 to 4	5 to 9	10 to 19	20 to 49	50 plus	Subtotal	None	Total
Manufacturing Industries		**416**	**117**	**87**	**95**	**68**	**783**	**509**	**1,292**
325	Chemicals	18	11	4	15	3	51	29	80
	Computer & other Electronics	180	52	38	56	48	374	334	708
33641	Aerospace	20	3	3	5	6	37	49	86
33911	Medical equipment	198	51	42	19	11	321	97	418
Service Industries		**3,263**	**526**	**350**	**299**	**168**	**4,606**	**7,232**	**11,838**
51	Information services	136	47	32	36	39	290	192	482
541330	Engineering services	1,224	242	145	126	58	1,795	2,350	4,145
541510	Computer systems design	1,903	237	173	137	71	2,521	4,690	7,211
Total for sector		**3,679**	**643**	**437**	**394**	**236**	**5,389**	**7,741**	**13,130**
Total for all Industries		**92,830**	**27,678**	**18,595**	**12,270**	**7,097**	**158,470**	**173,948**	**332,418**

Source: BC Stats and Statistics Canada

Table 17. Shipments and Exports of BC High Technology Goods and Total Processed Goods, 1993-2003

	Value ($000,000)									
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Goods											
Total Shipments[1]	961	1,163	1,323	1,539	1,763	1,845	2,267	2,819	2,664	2,137	2,045
Exports	450	391	407	451	581	769	840	923	748	685	629
Exports as % of Shipments	46.9	33.6	30.8	29.3	33.0	41.7	37.1	32.7	28.1	32.0	30.7
Total Processed Goods											
Total Shipments[1]	26,583	30,333	34,207	32,932	33,496	31,757	36,679	40,699	38,281	38,499	37,223
Exports of Processed Goods[2]	15,835	19,245	22,845	21,304	21,845	20,977	24,025	25,288	23,004	22,721	21,128
Export Orientation (%)	59.6	63.4	66.8	64.7	65.2	66.1	65.5	62.1	60.1	59.0	56.8

	% change from previous year									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Goods										
Total Shipments	21.1	13.7	16.3	14.5	4.7	22.9	24.4	-5.5	-19.8	-4.3
Exports	-13.2	4.1	10.8	29.0	32.3	9.2	9.9	-19.0	-8.5	-8.2
Total Processed Goods										
Total Shipments	14.1	12.8	-3.7	1.7	-5.2	15.5	11.0	-5.9	0.6	-3.3
Exports of Processed Goods	21.5	18.7	-6.7	2.5	-4.0	14.5	5.3	-9.0	-1.2	-7.0

1. Total shipments represent revenues from all production, sales, services and related activities in the manufacturing sector.
2. "Processed goods" excludes selected agricultural, fish, logging, mining and energy products not produced by BC manufacturing industries.

Source: BC Stats and Statistics Canada

Table 18. Domestic Exports of High Technology Goods, by Destination and Mode of Transport, 1993-2003

Value ($ million)[1]

Destination	Mode of Transport[2]	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
United States	Land	276.5	184.7	160.3	159.1	240.7	384.8	408.6	477.4	343.8	384.2	353.8
	Sea	0.1	0.5	1.7	1.7	5.6	3.4	5.2	1.5	1.4	0.0	0.0
	Air	49.6	85.4	124.4	127.9	168.1	208.4	266.2	294.1	251.2	173.9	149.2
	Total	**326.3**	**270.6**	**286.4**	**288.7**	**414.4**	**596.6**	**680.0**	**773.0**	**596.4**	**558.1**	**503.0**
Pacific Rim (total)	Land	15.5	6.6	7.1	12.3	14.9	8.5	6.8	0.4	1.0	7.5	4.4
	Sea	8.5	5.6	5.5	12.1	5.6	8.9	4.7	9.4	4.6	13.7	2.2
	Air	44.1	53.8	59.5	81.8	94.1	78.7	72.3	56.9	27.8	25.9	33.8
	Total	**68.1**	**65.9**	**72.1**	**106.2**	**114.6**	**96.1**	**83.8**	**66.8**	**33.3**	**47.2**	**40.4**
Japan	Land	1.7	1.8	2.2	3.1	2.7	0.0	0.4	0.1	0.3	4.5	1.7
	Sea	0.1	0.3	0.6	1.0	0.3	0.9	0.3	2.1	0.7	12.1	0.1
	Air	7.8	8.7	10.8	14.6	16.3	7.7	4.5	28.1	8.7	5.4	5.5
	Total	**9.6**	**10.8**	**13.6**	**18.7**	**19.3**	**8.6**	**5.2**	**30.4**	**9.7**	**22.0**	**7.3**
Pacific Rim (excluding Japan)	Land	13.8	4.8	4.9	9.2	12.2	8.5	6.4	0.3	0.7	3.1	2.7
	Sea	8.3	5.2	4.9	11.0	5.4	8.1	4.4	7.4	3.8	1.6	2.1
	Air	36.3	45.0	48.7	67.2	77.8	70.9	67.8	28.8	19.1	20.5	28.3
	Total	**58.5**	**55.1**	**58.5**	**87.4**	**95.3**	**87.5**	**78.6**	**36.4**	**23.6**	**25.1**	**33.0**
European Union[3]	Land	0.1	0.9	1.6	0.1	1.5	5.7	0.2	1.6	3.0	0.5	0.2
	Sea	17.4	4.4	0.1	2.4	1.1	1.5	4.6	1.2	8.3	5.3	7.9
	Air	18.8	29.4	31.1	27.1	30.8	51.4	48.8	57.4	76.1	52.4	42.5
	Total	**36.3**	**34.7**	**32.9**	**29.6**	**33.4**	**58.5**	**53.7**	**60.2**	**87.5**	**58.1**	**50.6**
All Other Countries	Land	3.2	1.9	0.8	1.7	1.5	0.7	1.6	2.1	7.1	1.6	1.3
	Sea	2.4	1.7	0.8	1.9	3.0	1.4	1.2	2.6	9.1	1.9	2.3
	Air	14.0	15.8	13.9	22.5	14.3	15.9	19.8	18.4	14.7	17.7	30.9
	Total	**19.6**	**19.4**	**15.5**	**26.1**	**18.9**	**18.0**	**22.6**	**23.1**	**30.9**	**21.2**	**34.6**
Total	Land	295.3	194.1	169.8	173.2	258.8	399.7	417.2	481.6	354.9	393.8	359.7
	Sea	28.4	12.2	8.1	18.1	15.3	15.2	15.7	14.7	23.4	20.9	12.4
	Air	126.6	184.4	228.9	259.4	307.3	354.4	407.2	426.7	369.8	269.9	256.5
	Total	**450.3**	**390.7**	**406.8**	**450.6**	**581.4**	**769.2**	**840.1**	**923.1**	**748.1**	**684.6**	**628.5**

% of Exports to Destination[4]

Destination	Mode of Transport	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
United States	Land	84.8	68.2	56.0	55.1	58.1	64.5	60.1	61.8	57.6	68.8	70.3
	Sea	0.0	0.2	0.6	0.6	1.4	0.6	0.8	0.2	0.2	0.0	0.0
	Air	15.2	31.6	43.4	44.3	40.6	34.9	39.1	38.0	42.1	31.2	29.7
Pacific Rim (total)	Land	22.7	10.0	9.9	11.6	13.0	8.9	8.1	0.7	3.0	16.0	10.9
	Sea	12.4	8.5	7.6	11.4	4.9	9.3	5.6	14.1	13.7	29.1	5.4
	Air	64.8	81.5	82.5	77.1	82.1	81.8	86.3	85.2	83.3	54.9	83.7
Japan	Land	17.4	16.6	16.5	16.6	14.2	0.0	8.3	0.5	3.1	20.3	23.7
	Sea	1.4	3.0	4.4	5.5	1.3	10.0	5.1	6.8	7.7	55.1	1.5
	Air	81.2	80.3	79.1	77.9	84.5	89.9	86.6	92.7	89.2	24.6	74.7
Pacific Rim (excluding Japan)	Land	23.6	8.7	8.4	10.5	12.8	9.7	8.1	0.8	2.9	12.2	8.1
	Sea	14.2	9.5	8.3	12.6	5.6	9.2	5.6	20.2	16.2	6.4	6.3
	Air	62.2	81.8	83.3	76.9	81.6	81.0	86.3	78.9	81.0	81.5	85.7
European Union[3]	Land	0.3	2.5	5.0	0.4	4.6	9.7	0.5	2.7	3.5	0.8	0.3
	Sea	47.8	12.6	0.4	8.0	3.2	2.6	8.6	2.0	9.5	9.1	15.5
	Air	51.9	84.9	94.6	91.6	92.2	87.7	90.9	95.3	87.0	90.1	84.1
All Other Countries	Land	16.1	10.0	4.9	6.6	8.2	3.8	7.0	9.2	23.1	7.7	3.9
	Sea	12.3	8.7	5.3	7.2	16.0	7.6	5.3	11.2	29.5	8.7	6.7
	Air	71.5	81.3	89.8	86.1	75.8	88.6	87.8	79.6	47.4	83.6	89.4
Total	Land	65.6	49.7	41.7	38.4	44.5	52.0	49.7	52.2	47.4	57.5	57.2
	Sea	6.3	3.1	2.0	4.0	2.6	2.0	1.9	1.6	3.1	3.0	2.0
	Air	28.1	47.2	56.3	57.6	52.9	46.1	48.5	46.2	49.4	39.4	40.8

1. Totals may not equal the sum of Land, Sea and Air due to the fact that some respondents did not fill in the survey completely.
2. Shipments by land to overseas markets represent the export of BC produced high technology products transshipped by US Ports such as Seattle or Portland.
3. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures for the EU do not include Slovenia.
4. Percentages may not add to 100 due to rounding.

Source: BC Stats and Statistics Canada

Table 19. Top 25 High Technology Export Commodities, 2003

HS Code	Commodity Description [1]	Value ($000,000)	% Total Exports
90181900	Electro-diagnostic apparatus, nes	99.9	15.9
88033000	Aircraft parts nes	64.9	10.3
90191000	Mechano-therapy appl; massage app; psychological aptitude-testing apparatus	49.3	7.8
90328900	Automatic regulating or controlling instruments and apparatus, nes	46.4	7.4
85252000	Transmission apparatus, for radioteleph incorporating reception apparatus	43.1	6.9
28444019	Radioactive elements & isotopes and compounds, nes	22.0	3.5
85254000	Still image video cameras and other video camera recorders;digital cameras	21.2	3.4
84733000	Parts and accessories of automatic data processing machines & units thereof	18.1	2.9
85253000	Television cameras	16.1	2.6
85243190	Rec disc laser reading syst for repro phenomena o/t sound/image,o/t software,nes	14.7	2.3
90148000	Navigational instruments and appliances nes	14.4	2.3
90213900	Artificial parts of the body, nes	12.8	2.0
85219000	Video recording or reproducing apparatus nes	12.3	2.0
85173000	Telephonic or telegraphic switching apparatus	11.4	1.8
90158000	Surveying, hydrographic, oceanographic, meteorological or geophysical inst nes	10.5	1.7
85179000	Parts of electrical apparatus for line telephone or line telegraphy	9.7	1.5
85414000	Photosensitive semiconductor devices, photovoltaic cells & light emit diodes	8.8	1.4
90303900	Inst & app, for measuring or checking voltage, current, etc w/o a record device	8.1	1.3
85269200	Radio remote control apparatus	8.0	1.3
84719000	Other data processing machines, nes	7.6	1.2
85251000	Transmission apparatus for radio-teleph radio-broadcasting or television	7.3	1.2
84715000	Digital process units o/t 8471.41/49,w/n cntg in same housing storage/input/output	7.2	1.1
84716000	Input or output units, w/n containing storage units in the same housing	6.4	1.0
84714100	Other digital auto data process machines, o/t portable of HS 8471.30	5.7	0.9
85243900	Recorded discs for laser reading systems, nes	5.4	0.9
Subtotal		**531.2**	**84.5**
	All Other High Technology Commodities	97.3	15.5
Total		**628.5**	**100.0**

HS code = Harmonized System commodity code; NES=Not Elsewhere Specified
1. Commodity descriptions are drawn from the approved Harmonized System coding manual.
They contain abbreviations that have been left in the original form in this table.

Source: BC Stats and Statistics Canada

Table 20. Top 25 High Technology Import Commodities, 2003

HS Code	Commodity Description [1]	Value ($000,000)	% Total Imports
8802400014	Airplanes,passenger, non military, of an unladen weight >15000kg,new	242.7	6.5
3004900079	Medicaments nes, for human use, in dosage	189.3	5.0
8471500090	Digital process units, o/t 8471.41/49, w/n cntg strg,input/output o/t w CRT, nes	154.1	4.1
8473302000	Printed circuit assemblies of the machines of heading 84.71[2]	144.2	3.8
8471300000	Portable digital auto data process mach, not more than 10 kg, w CPU, keybrd & display	140.1	3.7
8803300000	Parts of airplanes or helicopters nes	107.1	2.8
8473309000	Pts & access (o/t printed circuit assy) of the machines of heading 84.71, nes	94.6	2.5
8525400010	Still image video cameras and other video camera recorders, colour	93.3	2.5
8525200092	Cellular telephones other than designed for installation in motor vehicles	80.1	2.1
8471801000	Control or adapter units, o/t form of system	77.4	2.1
8517901030	Parts, printed circuit asy, of goods of TI 8517.11.00, 8517.19.10 , 8517.19.90,etc[3]	68.7	1.8
8471700013	Other hard magnetic disk drive units, o/t presented in form of system	53.5	1.4
8521901000	Laser video disc players, w/n incorp video tuner	52.0	1.4
8524391000	Recorded discs (software),for reproducing image only, other than magnetic, nes	50.5	1.3
8473301000	Pts, o/t printed circuit asy, of printers w/n cntg storage units in same housing	49.2	1.3
8524310011	Rec magnetic discs, software, prepackd,for aut data processing mach, sold retail	43.1	1.1
9018909080	Instruments & appliances used in medical, surgical, dental/veterinary science, nes	39.0	1.0
8471491090	Digital process units,w/n cntg in same hsng,strg unit,in/output,o/t with CRT,nes	38.9	1.0
8525200088	Radio transceivers, for a frequency > 400 MHz	35.7	0.9
8802120011	Helicopters, military, of an unladen weight > 2,000 kg, new	35.3	0.9
8524399000	Recorded discs (o/t software), for reproducing image only, o/t magnetic, nes	34.5	0.9
8528129500	Colour non-high definition tv rece , proj type, with cathode ray tube, etc	34.4	0.9
8517909100	Pts, of telephone sets/videophones/telep switch app, etc or telephonic app, nes	34.4	0.9
8528129910	App for the reception of television signals relayed by tv satellite, colour, nes	34.0	0.9
9032891029	Process cntl app, excl sensors, which convert analog sgnl from/to digital, nes	33.4	0.9
Subtotal		**1,959.3**	**52.1**
	All Other High Technology Commodities	1,799.8	47.9
Total		**3,759.2**	**100.0**

HS code = Harmonized System commodity code; NES=Not Elsewhere Specified
1. Commodity descriptions are drawn from the approved Harmonized System coding manual.
They contain abbreviations that have been left in the original form in this table.
2. Refers to automatic data processing machines, magnetic or optical readers, etc.
3. Refers to telephone sets, videophones.

Source: BC Stats and Statistics Canada

Table 21. Domestic Exports of High Technology Goods and Total Goods, by Destination 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Exports[1]											
United States	326.3	270.6	286.4	288.7	414.4	596.6	680.0	773.0	596.4	558.1	503.0
Mexico	1.3	0.8	1.1	0.9	0.6	1.1	3.1	0.9	0.9	1.7	1.7
European Union[2]	36.3	34.7	32.9	29.6	33.4	58.5	53.7	60.2	87.5	58.1	50.6
United Kingdom	*12.0*	*8.1*	*6.1*	*8.7*	*7.9*	*6.9*	*6.9*	*13.0*	*20.4*	*21.9*	*16.0*
France	*3.1*	*2.6*	*4.6*	*2.6*	*5.9*	*6.6*	*6.7*	*1.5*	*5.3*	*4.0*	*4.7*
Germany	*4.3*	*6.2*	*5.0*	*5.0*	*4.5*	*13.7*	*6.2*	*5.2*	*7.1*	*7.3*	*7.9*
Italy	*1.2*	*0.5*	*0.8*	*3.2*	*0.6*	*2.5*	*2.2*	*18.5*	*31.6*	*2.9*	*3.6*
Netherlands	*1.8*	*5.5*	*6.8*	*3.2*	*8.2*	*11.3*	*9.1*	*5.0*	*5.2*	*2.8*	*3.3*
Pacific Rim	68.1	65.9	72.1	106.2	114.6	96.1	83.8	66.8	33.3	47.2	40.4
Hong Kong	*17.1*	*20.2*	*25.8*	*13.6*	*21.9*	*32.0*	*12.0*	*6.5*	*6.2*	*3.3*	*4.9*
PR China	*5.2*	*4.4*	*3.3*	*16.4*	*20.1*	*27.1*	*17.7*	*2.3*	*3.0*	*4.1*	*10.3*
Japan	*9.6*	*10.8*	*13.6*	*18.7*	*19.3*	*8.6*	*5.2*	*30.4*	*9.7*	*22.0*	*7.3*
South Korea	*5.7*	*10.4*	*8.1*	*8.7*	*16.7*	*4.6*	*11.9*	*9.1*	*6.2*	*4.3*	*2.2*
Taiwan	*6.0*	*3.1*	*4.0*	*8.7*	*12.2*	*14.9*	*24.2*	*4.3*	*2.2*	*4.3*	*5.8*
All Other Countries	18.3	18.6	14.3	25.2	18.3	16.9	19.4	22.1	30.0	19.5	32.9
Total	**450.3**	**390.7**	**406.8**	**450.6**	**581.4**	**769.2**	**840.1**	**923.1**	**748.1**	**684.6**	**628.5**
Total Exports											
United States	10,113.4	12,321.6	13,288.0	13,895.1	14,863.1	16,375.0	19,370.7	22,197.6	22,110.7	19,694.3	18,807.1
Mexico	46.8	77.1	54.6	50.5	61.9	60.7	42.2	57.7	83.2	79.0	130.6
European Union[2]	1,574.9	1,972.8	2,887.4	1,973.5	2,080.7	2,016.2	1,931.1	2,581.5	2,137.3	1,817.4	1,845.2
United Kingdom	*310.4*	*328.1*	*377.7*	*336.4*	*288.7*	*302.5*	*319.2*	*381.2*	*355.0*	*337.0*	*302.4*
France	*138.6*	*169.2*	*317.6*	*182.3*	*183.5*	*175.8*	*167.1*	*217.0*	*167.9*	*149.7*	*161.9*
Germany	*349.4*	*474.5*	*694.4*	*409.1*	*475.6*	*395.6*	*299.7*	*534.5*	*382.4*	*320.9*	*364.3*
Italy	*266.9*	*412.1*	*646.1*	*435.5*	*474.1*	*439.1*	*445.6*	*617.1*	*532.8*	*428.6*	*460.7*
Netherlands	*135.0*	*101.0*	*184.8*	*164.1*	*204.3*	*251.5*	*235.3*	*174.6*	*211.9*	*222.8*	*227.8*
Pacific Rim	6,886.7	7,953.8	9,857.5	9,226.4	9,023.7	6,969.7	7,179.8	8,176.9	6,710.7	6,689.2	6,881.1
Hong Kong	*149.3*	*192.5*	*270.6*	*258.3*	*352.0*	*272.2*	*280.7*	*299.0*	*235.5*	*228.1*	*191.5*
PR China	*284.2*	*306.5*	*500.6*	*514.1*	*455.5*	*464.5*	*593.2*	*740.7*	*768.2*	*842.6*	*1,096.0*
Japan	*4,943.5*	*5,701.8*	*6,764.6*	*6,403.8*	*6,003.4*	*4,548.5*	*4,468.3*	*4,890.8*	*4,067.6*	*3,858.5*	*3,649.4*
South Korea	*580.9*	*743.1*	*979.5*	*866.1*	*953.2*	*678.0*	*754.6*	*930.4*	*757.9*	*764.0*	*835.8*
Taiwan	*347.2*	*361.0*	*482.0*	*354.3*	*457.3*	*399.6*	*375.9*	*421.9*	*336.6*	*354.2*	*445.4*
All Other Countries	442.5	568.8	805.7	619.4	731.3	623.5	589.5	738.5	772.2	737.3	852.3
Total	**19,064.2**	**22,894.1**	**26,893.1**	**25,764.8**	**26,760.7**	**26,045.1**	**29,113.3**	**33,752.2**	**31,814.1**	**29,017.3**	**28,516.2**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Exports										
United States	-17.1	5.8	0.8	43.5	44.0	14.0	13.7	-22.8	-6.4	-9.9
Mexico	-40.6	50.0	-21.5	-32.2	76.5	191.4	-69.9	-5.8	93.4	-1.1
European Union[2]	-4.5	-5.2	-9.9	12.8	75.3	-8.2	12.2	45.2	-33.6	-13.0
United Kingdom	*-32.9*	*-24.9*	*44.0*	*-9.0*	*-13.1*	*0.2*	*87.7*	*57.4*	*7.3*	*-26.8*
France	*-14.9*	*75.3*	*-42.4*	*125.2*	*11.5*	*0.8*	*-77.6*	*253.7*	*-24.1*	*17.3*
Germany	*41.9*	*-18.5*	*0.3*	*-10.1*	*201.7*	*-54.4*	*-15.9*	*34.8*	*3.4*	*8.1*
Italy	*-57.1*	*58.4*	*278.4*	*-82.7*	*355.6*	*-11.3*	*725.8*	*70.8*	*-90.7*	*23.2*
Netherlands	*211.0*	*22.8*	*-52.8*	*156.4*	*37.1*	*-19.4*	*-44.6*	*4.2*	*-45.9*	*15.0*
Pacific Rim	-3.1	9.3	47.3	8.0	-16.1	-12.8	-20.3	-50.1	41.5	-14.4
Hong Kong	*18.1*	*27.8*	*-47.1*	*60.8*	*46.3*	*-62.4*	*-45.7*	*-5.2*	*-46.3*	*46.4*
People's Republic of China	*-16.2*	*-25.8*	*400.6*	*23.1*	*34.9*	*-34.9*	*-87.0*	*29.5*	*36.6*	*152.5*
Japan	*13.3*	*25.5*	*37.6*	*2.9*	*-55.4*	*-39.5*	*483.0*	*-68.0*	*127.1*	*-66.6*
South Korea	*82.6*	*-22.1*	*6.5*	*92.6*	*-72.2*	*157.9*	*-23.9*	*-31.5*	*-31.5*	*-49.2*
Taiwan	*-48.0*	*28.6*	*115.0*	*40.7*	*21.6*	*62.7*	*-82.4*	*-48.1*	*94.4*	*34.2*
All Other Countries	1.8	-23.2	75.9	-27.4	-7.6	14.9	13.9	35.8	-35.2	69.0
Total Growth	**-13.2**	**4.1**	**10.8**	**29.0**	**32.3**	**9.2**	**9.9**	**-19.0**	**-8.5**	**-8.2**
Total Exports										
United States	21.8	7.8	4.6	7.0	10.2	18.3	14.6	-0.4	-10.9	-4.5
Mexico	64.9	-29.3	-7.5	22.8	-2.0	-30.5	36.7	44.3	-5.1	65.3
European Union[2]	25.3	46.4	-31.7	5.4	-3.1	-4.2	33.7	-17.2	-15.0	1.5
United Kingdom	*5.7*	*15.1*	*-10.9*	*-14.2*	*4.8*	*5.5*	*19.4*	*-6.9*	*-5.1*	*-10.3*
France	*22.1*	*87.8*	*-42.6*	*0.6*	*-4.2*	*-4.9*	*29.9*	*-22.6*	*-10.9*	*8.1*
Germany	*35.8*	*46.4*	*-41.1*	*16.2*	*-16.8*	*-24.2*	*78.4*	*-28.5*	*-16.1*	*13.5*
Italy	*54.4*	*56.8*	*-32.6*	*8.9*	*-7.4*	*1.5*	*38.5*	*-13.7*	*-19.6*	*7.5*
Netherlands	*-25.2*	*83.0*	*-11.2*	*24.6*	*23.1*	*-6.4*	*-25.8*	*21.3*	*5.1*	*2.3*
Pacific Rim	15.5	23.9	-6.4	-2.2	-22.8	3.0	13.9	-17.9	-0.3	2.9
Hong Kong	*29.0*	*40.6*	*-4.5*	*36.3*	*-22.7*	*3.1*	*6.5*	*-21.2*	*-3.2*	*-16.0*
People's Republic of China	*7.8*	*63.3*	*2.7*	*-11.4*	*2.0*	*27.7*	*24.9*	*3.7*	*9.7*	*30.1*
Japan	*15.3*	*18.6*	*-5.3*	*-6.3*	*-24.2*	*-1.8*	*9.5*	*-16.8*	*-5.1*	*-5.4*
South Korea	*27.9*	*31.8*	*-11.6*	*10.1*	*-28.9*	*11.3*	*23.3*	*-18.5*	*0.8*	*9.4*
Taiwan	*4.0*	*33.5*	*-26.5*	*29.1*	*-12.6*	*-5.9*	*12.2*	*-20.2*	*5.2*	*25.7*
All Other Countries	28.5	41.6	-23.1	18.1	-14.7	-5.4	25.3	4.6	-4.5	15.6
Total Growth	**20.1**	**17.5**	**-4.2**	**3.9**	**-2.7**	**11.8**	**15.9**	**-5.7**	**-8.8**	**-1.7**

1. High technology exports reflect exports of high technology commodities produced by the manufacturing portion of the high technology sector; exports from the high technology service industries are not included.
2. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures for the EU do not include Slovenia.

Table 22. Imports of High Technology, by Country of Origin, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Imports											
United States	1,198.0	1,625.8	1,627.4	1,740.0	2,103.6	2,319.2	2,305.6	2,386.0	2,232.6	1,923.7	1,736.9
Mexico	22.1	52.3	60.5	72.6	84.5	88.7	126.3	169.4	203.9	216.0	217.1
European Union[1]	193.3	260.7	258.9	306.3	511.1	499.9	668.4	658.0	779.3	745.9	556.6
United Kingdom	*45.0*	*71.8*	*81.7*	*84.5*	*89.2*	*102.6*	*144.0*	*324.2*	*165.8*	*138.5*	*126.5*
France	*57.7*	*67.6*	*57.0*	*109.2*	*284.1*	*243.5*	*360.9*	*145.9*	*360.1*	*314.9*	*180.2*
Germany	*31.6*	*44.1*	*45.9*	*49.5*	*49.9*	*58.5*	*69.1*	*70.7*	*106.7*	*89.1*	*81.1*
Italy	*14.3*	*24.7*	*20.7*	*9.4*	*13.5*	*13.9*	*11.0*	*11.4*	*35.7*	*69.5*	*54.0*
Netherlands	*8.7*	*8.1*	*8.5*	*7.9*	*7.1*	*7.9*	*8.4*	*12.7*	*17.9*	*32.2*	*13.9*
Pacific Rim	432.6	625.5	690.7	608.0	830.8	913.9	936.7	977.6	915.7	943.9	1,068.6
Hong Kong	*16.3*	*18.3*	*20.2*	*13.7*	*20.4*	*17.6*	*20.7*	*18.8*	*13.1*	*10.6*	*10.4*
PR China	*11.0*	*21.3*	*27.6*	*32.5*	*46.0*	*53.6*	*71.2*	*101.2*	*144.7*	*208.2*	*316.9*
Japan	*191.1*	*248.0*	*281.0*	*232.5*	*303.7*	*319.6*	*320.5*	*316.1*	*272.0*	*246.7*	*235.9*
South Korea	*50.4*	*82.8*	*100.5*	*69.0*	*80.0*	*75.7*	*77.3*	*99.5*	*86.3*	*85.6*	*117.7*
Taiwan	*64.6*	*76.9*	*68.3*	*76.7*	*123.0*	*160.7*	*175.2*	*165.4*	*157.6*	*143.2*	*114.1*
All Other Countries	83.9	122.7	119.8	116.1	128.8	156.4	212.4	284.0	349.1	249.2	180.0
Total Value	**1,930.0**	**2,687.0**	**2,757.2**	**2,842.9**	**3,658.8**	**3,978.1**	**4,249.3**	**4,475.0**	**4,480.6**	**4,078.8**	**3,759.2**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Imports										
United States	35.7	0.1	6.9	20.9	10.3	-0.6	3.5	-6.4	-13.8	-9.7
Mexico	137.2	15.5	20.0	16.5	5.0	42.3	34.1	20.4	6.0	0.5
European Union[1]	34.9	-0.7	18.3	66.9	-2.2	33.7	-1.6	18.4	-4.3	-25.4
United Kingdom	*59.5*	*13.9*	*3.3*	*5.6*	*15.0*	*40.4*	*125.1*	*-48.9*	*-16.4*	*-8.7*
France	*17.1*	*-15.7*	*91.5*	*160.3*	*-14.3*	*48.2*	*-59.6*	*146.8*	*-12.5*	*-42.8*
Germany	*39.4*	*4.0*	*8.0*	*0.8*	*17.1*	*18.1*	*2.4*	*50.8*	*-16.4*	*-9.0*
Italy	*72.4*	*-16.0*	*-54.9*	*44.4*	*3.2*	*-21.2*	*3.3*	*214.8*	*94.6*	*-22.3*
Netherlands	*-6.4*	*4.8*	*-7.0*	*-10.7*	*11.4*	*6.5*	*50.5*	*41.5*	*79.9*	*-56.8*
Pacific Rim	44.6	10.4	-12.0	36.6	10.0	2.5	4.4	-6.3	3.1	13.2
Hong Kong	*12.5*	*10.0*	*-32.3*	*49.5*	*-13.9*	*17.8*	*-9.4*	*-30.2*	*-19.3*	*-1.4*
PR China	*93.9*	*29.4*	*17.9*	*41.5*	*16.4*	*32.9*	*42.1*	*42.9*	*43.9*	*52.2*
Japan	*29.8*	*13.3*	*-17.2*	*30.6*	*5.2*	*0.3*	*-1.4*	*-14.0*	*-9.3*	*-4.3*
South Korea	*64.4*	*21.4*	*-31.4*	*15.9*	*-5.4*	*2.2*	*28.7*	*-13.2*	*-0.8*	*37.5*
Taiwan	*19.1*	*-11.2*	*12.4*	*60.3*	*30.6*	*9.0*	*-5.6*	*-4.7*	*-9.1*	*-20.4*
All Other Countries	46.2	-2.3	-3.1	11.0	21.4	35.8	33.7	22.9	-28.6	-27.8
Total Growth	**39.2**	**2.6**	**3.1**	**28.7**	**8.7**	**6.8**	**5.3**	**0.1**	**-9.0**	**-7.8**

1. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures for the EU do not include Slovenia.

Source: BC Stats and Statistics Canada

Table 23. Balance of Trade in High Technology Goods, by Country, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Commodities											
United States	-798.4	-1,284.0	-1,189.0	-1,247.6	-1,497.3	-1,468.1	-1,228.2	-814.2	-1,364.5	-1,130.0	-1,012.3
Mexico	-20.8	-51.6	-59.3	-71.6	-83.9	-87.6	-122.9	-168.4	-202.7	-212.4	-213.6
European Union[1]	-149.8	-222.3	-221.6	-271.2	-468.7	-432.0	-596.1	-546.4	-661.4	-664.5	-470.7
United Kingdom	*-28.2*	*-62.9*	*-74.9*	*-73.1*	*-78.1*	*-93.0*	*-133.8*	*-299.1*	*-121.9*	*-106.3*	*-95.9*
France	*-54.4*	*-64.5*	*-52.0*	*-105.9*	*-276.3*	*-234.7*	*-345.3*	*-128.6*	*-354.2*	*-309.6*	*-175.1*
Germany	*-26.5*	*-36.6*	*-38.6*	*-43.5*	*-43.5*	*-43.4*	*-60.2*	*-55.0*	*-98.4*	*-75.7*	*-68.3*
Italy	*-13.1*	*-24.1*	*-19.8*	*-6.1*	*-12.7*	*-11.2*	*-8.5*	*7.2*	*-1.4*	*-65.3*	*-50.1*
Netherlands	*-6.8*	*-2.4*	*-1.3*	*-4.4*	*1.3*	*4.3*	*1.7*	*-7.6*	*-12.6*	*-29.0*	*-8.3*
Pacific Rim	-349.4	-543.2	-601.6	-484.2	-686.3	-779.5	-793.9	-758.9	-805.7	-839.5	-907.4
Hong Kong	*1.4*	*7.7*	*8.8*	*4.7*	*7.6*	*30.7*	*10.9*	*39.2*	*28.3*	*13.5*	*26.8*
PR China	*-5.5*	*-16.0*	*-24.3*	*-16.1*	*-25.7*	*-25.7*	*-52.1*	*-88.4*	*-134.5*	*-200.8*	*-284.6*
Japan	*-177.7*	*-236.1*	*-256.9*	*-207.8*	*-275.9*	*-304.3*	*-303.3*	*-244.3*	*-246.7*	*-209.8*	*-206.6*
South Korea	*-44.5*	*-72.0*	*-90.9*	*-55.9*	*-58.7*	*-67.8*	*-55.3*	*-80.5*	*-75.6*	*-76.2*	*-108.8*
Taiwan	*-58.1*	*-73.1*	*-63.2*	*-67.6*	*-109.5*	*-140.3*	*-147.2*	*-156.4*	*-151.6*	*-137.9*	*-106.2*
All Other Countries	-62.9	-100.9	-101.2	-82.8	-106.1	-137.5	-186.2	-249.7	-311.0	-223.5	-140.7
Total	**-1,381.3**	**-2,202.0**	**-2,172.7**	**-2,157.4**	**-2,842.3**	**-2,904.7**	**-2,927.3**	**-2,537.5**	**-3,345.2**	**-3,069.8**	**-2,744.7**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within BC only).

1. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures for the EU do not include Slovenia.

Source: BC Stats and Statistics Canada

Table 24. Domestic Exports of High Technology Goods, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	1.3	1.4	2.0	0.8	1.0	2.2	2.4	1.5	1.6	1.7	2.0
Life Sciences	24.4	23.3	26.1	30.5	46.0	55.3	69.4	82.0	94.8	186.2	201.5
Opto-Electronics	16.5	17.7	22.4	24.7	35.6	51.4	91.5	167.5	121.1	70.9	35.3
Computers and Telecommunications	317.5	260.8	236.5	292.0	374.3	443.2	399.9	318.6	259.8	262.3	235.7
Electronics	6.1	12.7	12.3	17.5	17.1	13.0	9.5	14.2	18.1	4.6	4.1
Computer Integrated Manufacturing	25.6	27.7	33.4	32.0	37.4	40.8	44.5	51.6	56.3	47.5	62.5
Material Design	24.1	22.6	18.5	0.9	13.7	57.7	94.0	178.6	71.0	3.2	1.5
Aerospace	34.3	23.5	53.1	50.6	52.4	101.2	126.6	102.9	118.9	104.5	83.9
Weapons and Nuclear	0.6	1.0	2.4	1.5	4.0	4.4	2.3	6.3	6.5	3.9	2.1
Total	**450.3**	**390.7**	**406.8**	**450.6**	**581.4**	**769.2**	**840.1**	**923.1**	**748.1**	**684.6**	**628.5**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	8.8	45.8	-60.1	21.6	128.5	8.9	-37.9	5.0	5.7	19.6
Life Sciences	-4.2	11.9	16.7	50.8	20.3	25.5	18.1	15.7	96.3	8.2
Opto-Electronics	7.6	26.2	10.2	44.5	44.4	78.0	82.9	-27.7	-41.5	-50.3
Computers and Telecommunications	-17.9	-9.3	23.5	28.2	18.4	-9.8	-20.3	-18.5	0.9	-10.1
Electronics	108.4	-2.9	42.4	-2.4	-23.8	-26.8	48.5	27.6	-74.7	-9.7
Computer Integrated Manufacturing	8.0	20.8	-4.1	16.8	9.1	9.1	15.9	9.2	-15.7	31.6
Material Design	-6.4	-18.0	-94.9	1351.2	321.9	63.0	90.0	-60.3	-95.5	-53.1
Aerospace	-31.5	126.1	-4.7	3.5	93.2	25.1	-18.7	15.6	-12.1	-19.7
Weapons and Nuclear	79.5	138.5	-37.6	159.2	10.2	-47.8	178.5	2.0	-40.2	-45.9
Total	**-13.2**	**4.1**	**10.8**	**29.0**	**32.3**	**9.2**	**9.9**	**-19.0**	**-8.5**	**-8.2**

Source: BC Stats and Statistics Canada

Table 25. Imports of High Technology Goods, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	16.0	17.4	21.7	24.6	21.6	32.5	33.8	33.7	57.6	53.3	55.2
Life Sciences	161.3	228.5	253.6	267.6	276.1	313.9	367.5	448.6	506.7	542.0	573.2
Opto-Electronics	31.8	71.3	72.8	78.1	96.3	97.4	93.6	121.8	123.7	104.6	94.3
Computers and Telecommunications	1,153.7	1,438.3	1,464.2	1,463.1	1,940.3	2,132.9	2,087.3	2,432.6	2,340.0	2,177.3	2,120.4
Electronics	177.6	397.6	476.7	371.7	545.2	680.0	676.9	547.7	333.4	228.0	203.4
Computer Integrated Manufacturing	113.3	168.4	154.5	145.2	183.3	133.8	153.0	186.9	166.3	162.6	169.5
Material Design	16.0	29.0	27.8	31.0	33.2	62.5	141.0	133.0	83.1	29.9	21.7
Aerospace	232.6	305.7	256.2	427.0	532.7	501.1	672.0	539.6	835.3	752.5	493.4
Weapons and Nuclear	27.7	30.8	29.7	34.7	30.2	24.1	24.2	31.2	34.5	28.6	28.0
Total	**1,930.0**	**2,687.0**	**2,757.2**	**2,842.9**	**3,658.8**	**3,978.1**	**4,249.3**	**4,475.0**	**4,480.6**	**4,078.8**	**3,759.2**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	8.8	25.0	13.2	-12.3	50.6	4.2	-0.4	71.0	-7.4	3.5
Life Sciences	41.7	11.0	5.5	3.2	13.7	17.1	22.1	13.0	7.0	5.8
Opto-Electronics	124.2	2.0	7.2	23.3	1.2	-3.9	30.0	1.6	-15.5	-9.8
Computers and Telecommunications	24.7	1.8	-0.1	32.6	9.9	-2.1	16.5	-3.8	-7.0	-2.6
Electronics	123.9	19.9	-22.0	46.7	24.7	-0.5	-19.1	-39.1	-31.6	-10.8
Computer Integrated Manufacturing	48.7	-8.3	-6.0	26.2	-27.0	14.3	22.1	-11.0	-2.2	4.2
Material Design	81.2	-4.0	11.3	7.0	88.5	125.5	-5.7	-37.5	-64.1	-27.3
Aerospace	31.4	-16.2	66.7	24.7	-5.9	34.1	-19.7	54.8	-9.9	-34.4
Weapons and Nuclear	11.2	-3.7	16.7	-12.9	-20.1	0.3	29.1	10.6	-17.2	-2.1
Total	**39.2**	**2.6**	**3.1**	**28.7**	**8.7**	**6.8**	**5.3**	**0.1**	**-9.0**	**-7.8**

Source: BC Stats and Statistics Canada

Table 26. Balance of Trade in High Technology Goods, by Commodity Group, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-14.6	-16.0	-19.7	-23.7	-20.6	-30.2	-31.4	-32.2	-56.0	-51.6	-53.2
Life Sciences	-134.8	-203.0	-225.9	-235.9	-228.6	-256.8	-295.1	-363.5	-409.3	-351.7	-366.0
Opto-Electronics	-13.9	-51.7	-49.7	-51.6	-58.1	-44.9	-0.5	48.4	0.9	-30.2	-57.4
Computers and Telecommunications	-763.5	-1,111.2	-1,157.6	-1,087.5	-1,487.2	-1,621.8	-1,621.5	-2,032.5	-2,004.3	-1,836.3	-1,809.0
Electronics	-166.4	-372.3	-424.7	-286.3	-413.7	-455.0	-302.6	334.4	-51.3	-38.1	38.5
Computer Integrated Manufacturing	-85.6	-138.5	-118.6	-110.5	-143.7	-90.7	-105.4	-127.2	-101.8	-110.5	-97.6
Material Design	8.1	-6.4	-9.3	-29.4	-19.5	-4.8	-46.8	46.0	-7.5	-25.0	-18.3
Aerospace	-183.6	-273.3	-140.3	-299.5	-445.1	-382.5	-503.6	-388.1	-688.4	-602.6	-356.7
Weapons and Nuclear	-27.0	-29.6	-26.9	-32.9	-25.8	-17.9	-20.4	-22.7	-27.4	-23.8	-24.9
Total	**-1,381.3**	**-2,202.0**	**-2,172.7**	**-2,157.4**	**-2,842.3**	**-2,904.7**	**-2,927.3**	**-2,537.5**	**-3,345.2**	**-3,069.8**	**-2,744.7**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within BC only).

Source: BC Stats and Statistics Canada

Table 27. Domestic Exports of High Technology Goods to the United States, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.7	0.8	0.4	0.6	0.6	0.7	0.7	0.6	1.5	1.6	1.4
Life Sciences	14.7	17.1	16.8	23.6	40.0	45.4	59.6	71.5	85.8	167.6	175.2
Opto-Electronics	8.5	12.3	16.1	16.3	24.7	40.5	77.5	135.3	89.8	54.2	25.3
Computers and Telecommunications	235.0	173.1	151.0	173.1	244.7	314.8	285.0	250.9	206.7	219.0	182.0
Electronics	4.7	5.0	9.1	8.7	10.3	7.5	6.7	9.9	14.4	2.3	2.5
Computer Integrated Manufacturing	15.7	20.5	26.2	25.6	29.6	32.2	35.7	40.9	49.5	39.0	45.4
Material Design	23.6	21.7	18.2	0.8	13.7	57.3	93.9	178.3	50.3	3.1	1.2
Aerospace	23.3	19.5	47.8	39.4	47.3	94.2	120.2	83.9	92.5	70.0	69.1
Weapons and Nuclear	0.1	0.4	0.8	0.6	3.5	4.0	0.8	1.7	6.0	1.3	0.9
Total	**326.3**	**270.6**	**286.4**	**288.7**	**414.4**	**596.6**	**680.0**	**773.0**	**596.4**	**558.1**	**503.0**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	9.0	-54.5	70.4	-0.5	10.5	2.3	-9.6	135.6	7.8	-12.9
Life Sciences	15.9	-1.8	41.0	69.4	13.4	31.4	20.0	19.9	95.5	4.5
Opto-Electronics	45.6	30.8	1.2	51.3	64.0	91.2	74.6	-33.6	-39.7	-53.4
Computers and Telecommunications	-26.3	-12.8	14.6	41.4	28.6	-9.5	-12.0	-17.6	6.0	-16.9
Electronics	8.0	80.4	-3.9	18.2	-27.5	-10.4	48.4	45.3	-84.1	8.9
Computer Integrated Manufacturing	30.7	27.6	-2.5	15.7	8.8	10.8	14.6	21.1	-21.2	16.5
Material Design	-7.7	-16.2	-95.8	1666.4	319.3	63.9	89.9	-71.8	-93.8	-63.2
Aerospace	-16.2	144.8	-17.6	20.1	99.1	27.6	-30.2	10.3	-24.4	-1.3
Weapons and Nuclear	304.3	87.1	-21.4	451.1	16.5	-79.7	101.3	261.3	-78.5	-30.7
Total	**-17.1**	**5.8**	**0.8**	**43.5**	**44.0**	**14.0**	**13.7**	**-22.8**	**-6.4**	**-9.9**

Source: BC Stats and Statistics Canada

Table 28. Imports of High Technology Goods from the United States, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	10.6	11.0	12.5	12.3	11.2	17.2	21.6	16.2	21.8	23.2	25.8
Life Sciences	103.9	154.9	164.2	167.8	160.4	190.5	225.5	276.0	300.0	322.9	326.0
Opto-Electronics	10.3	31.2	34.1	37.8	50.2	50.7	47.6	59.5	51.9	39.4	27.9
Computers and Telecommunications	716.3	875.0	896.1	921.1	1,220.0	1,351.5	1,195.4	1,305.7	1,173.2	994.0	876.7
Electronics	79.6	156.7	189.4	169.2	253.3	312.2	298.8	238.7	154.9	113.9	93.6
Computer Integrated Manufacturing	81.4	127.0	107.5	101.0	139.6	99.6	115.2	137.3	119.4	113.8	112.1
Material Design	14.0	26.4	23.3	27.3	29.5	56.8	125.9	104.2	51.2	22.7	15.5
Aerospace	160.0	223.1	183.1	284.9	220.2	225.4	260.2	229.2	338.8	275.2	240.3
Weapons and Nuclear	22.0	20.5	17.2	18.5	19.1	15.3	15.3	19.2	21.4	18.6	19.0
Total	**1,198.0**	**1,625.8**	**1,627.4**	**1,740.0**	**2,103.6**	**2,319.2**	**2,305.6**	**2,386.0**	**2,232.6**	**1,923.7**	**1,736.9**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	3.6	13.7	-1.1	-8.9	53.3	25.5	-25.1	34.6	6.4	11.3
Life Sciences	49.1	6.0	2.2	-4.4	18.7	18.4	22.4	8.7	7.6	1.0
Opto-Electronics	203.3	9.2	10.9	32.6	1.1	-6.0	25.0	-12.8	-24.0	-29.2
Computers and Telecommunications	22.2	2.4	2.8	32.5	10.8	-11.5	9.2	-10.1	-15.3	-11.8
Electronics	97.0	20.8	-10.6	49.7	23.3	-4.3	-20.1	-35.1	-26.5	-17.8
Computer Integrated Manufacturing	56.0	-15.3	-6.0	38.2	-28.7	15.7	19.2	-13.1	-4.7	-1.5
Material Design	88.6	-12.0	17.3	8.1	92.5	121.7	-17.3	-50.9	-55.7	-31.8
Aerospace	39.4	-17.9	55.5	-22.7	2.3	15.4	-11.9	47.8	-18.8	-12.7
Weapons and Nuclear	-6.9	-15.8	7.6	3.1	-20.0	0.0	25.7	11.2	-13.1	2.3
Total	**35.7**	**0.1**	**6.9**	**20.9**	**10.3**	**-0.6**	**3.5**	**-6.4**	**-13.8**	**-9.7**

Source: BC Stats and Statistics Canada

Table 29. Balance of Trade in High Technology Goods with the United States, by Commodity Group, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-9.2	-10.2	-12.1	-11.7	-10.6	-16.6	-20.9	-15.6	-20.3	-21.6	-24.5
Life Sciences	-77.3	-136.3	-146.0	-143.2	-119.4	-143.6	-163.1	-201.6	-212.0	-152.1	-146.8
Opto-Electronics	7.7	-17.1	-17.5	-20.3	-23.6	-9.2	31.3	78.2	41.0	16.9	-1.5
Computers and Telecommunications	-326.1	-653.7	-681.0	-675.7	-910.9	-978.8	-856.0	-987.6	-900.6	-706.1	-634.9
Electronics	-68.4	-140.3	-147.8	-106.9	-150.2	-128.2	9.8	456.5	33.8	14.2	16.0
Computer Integrated Manufacturing	-53.7	-104.3	-78.9	-73.0	-107.9	-65.1	-76.6	-88.4	-62.0	-70.5	-58.2
Material Design	10.1	-4.7	-5.1	-25.9	-15.8	0.6	-31.8	74.5	1.6	-17.9	-12.6
Aerospace	-111.0	-197.4	-84.3	-173.1	-143.7	-117.7	-107.6	-114.3	-231.2	-176.4	-132.1
Weapons and Nuclear	-21.3	-20.0	-16.3	-17.8	-15.3	-9.5	-13.3	-15.8	-14.8	-16.5	-17.8
Total	**-649.4**	**-1,284.0**	**-1,189.0**	**-1,247.6**	**-1,497.3**	**-1,468.1**	**-1,228.2**	**-814.2**	**-1,364.5**	**-1,130.0**	**-1,012.3**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within BC only).

Source: BC Stats and Statistics Canada

Table 30. Domestic Exports of High Technology Goods to the Pacific Rim, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.1
Life Sciences	6.6	4.2	6.5	3.7	2.8	2.6	3.5	4.0	2.8	1.9	4.9
Opto-Electronics	2.5	2.1	1.8	2.3	1.6	1.3	2.3	11.9	4.3	11.0	4.4
Computers and Telecommunications	54.3	49.4	55.2	88.5	98.7	80.4	68.7	37.8	18.4	14.5	18.2
Electronics	0.3	3.9	1.9	4.9	4.4	3.8	2.1	3.2	2.6	1.7	1.1
Computer Integrated Manufacturing	1.7	3.8	4.8	3.5	4.6	5.8	5.3	5.3	3.4	3.4	6.8
Material Design	0.5	0.6	0.3	0.1	0.0	0.1	0.0	0.0	0.2	0.0	0.0
Aerospace	1.9	1.7	1.3	2.3	2.3	2.1	1.5	2.2	1.6	13.1	4.0
Weapons and Nuclear	0.2	0.2	0.3	0.6	0.4	0.1	0.4	2.0	0.1	1.7	0.9
Total	**68.1**	**65.9**	**72.1**	**106.2**	**114.6**	**96.1**	**83.8**	**66.8**	**33.3**	**47.2**	**40.4**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	15.4	-40.8	165.8	-100.0	-	42.5	1624.6	-91.7	-77.4	2547.2
Life Sciences	-36.8	55.0	-42.3	-26.0	-5.0	33.7	15.2	-30.3	-33.0	159.8
Opto-Electronics	-14.8	-12.8	27.0	-33.1	-16.0	75.7	418.2	-64.2	157.3	-60.2
Computers and Telecommunications	-9.1	11.8	60.2	11.6	-18.6	-14.4	-45.0	-51.3	-21.3	25.5
Electronics	1386.8	-51.8	162.4	-10.5	-13.6	-45.7	54.5	-20.1	-35.2	-35.3
Computer Integrated Manufacturing	127.5	26.3	-27.2	30.5	26.7	-8.4	0.0	-35.2	-1.6	101.2
Material Design	10.9	-57.3	-50.7	-96.7	2707.5	-100.0	-	830.4	-96.5	642.9
Aerospace	-12.6	-23.5	77.6	-0.3	-10.0	-28.5	49.8	-26.3	699.1	-69.2
Weapons and Nuclear	29.6	27.4	150.1	-43.6	-82.8	563.3	390.5	-96.6	2424.9	-50.2
Total	**-3.1**	**9.3**	**47.3**	**8.0**	**-16.1**	**-12.8**	**-20.3**	**-50.1**	**41.5**	**-14.4**

Source: BC Stats and Statistics Canada

Table 31. Imports of High Technology Goods from the Pacific Rim, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.9	0.6	0.4	0.5	0.3	1.3	2.2	3.0	2.0	1.4	1.7
Life Sciences	10.1	18.3	20.6	23.4	19.3	18.8	25.8	28.0	35.5	35.0	37.4
Opto-Electronics	19.1	35.8	34.6	34.5	41.2	41.4	40.1	53.5	58.9	51.7	54.1
Computers and Telecommunications	332.2	415.1	420.2	389.6	532.1	573.1	589.8	623.7	642.7	736.9	855.6
Electronics	48.8	130.7	183.8	130.5	206.7	243.2	231.9	212.5	122.7	81.8	77.9
Computer Integrated Manufacturing	16.4	19.0	24.3	20.7	22.1	18.5	20.9	25.6	20.2	20.2	28.8
Material Design	1.3	1.6	2.5	1.6	1.4	1.9	8.7	12.4	13.6	2.2	1.8
Aerospace	2.8	3.3	3.0	5.6	6.1	14.4	16.0	17.1	17.9	12.6	9.0
Weapons and Nuclear	1.0	1.2	1.3	1.6	1.6	1.4	1.5	1.7	2.2	2.1	2.3
Total	**432.6**	**625.5**	**690.7**	**608.0**	**830.8**	**913.9**	**936.7**	**977.6**	**915.7**	**943.9**	**1,068.6**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-31.2	-39.6	36.2	-33.0	308.8	63.2	39.6	-34.8	-29.2	24.5
Life Sciences	80.6	12.7	13.6	-17.9	-2.4	37.1	8.8	26.6	-1.4	6.9
Opto-Electronics	87.0	-3.2	-0.4	19.3	0.5	-3.2	33.7	10.1	-12.3	4.6
Computers and Telecommunications	24.9	1.2	-7.3	36.6	7.7	2.9	5.8	3.0	14.7	16.1
Electronics	167.7	40.6	-29.0	58.4	17.6	-4.6	-8.4	-42.3	-33.3	-4.9
Computer Integrated Manufacturing	16.3	27.7	-14.9	6.7	-16.2	12.8	22.3	-21.1	0.1	42.5
Material Design	23.7	58.6	-33.8	-15.6	39.8	350.8	42.9	9.7	-84.1	-16.9
Aerospace	17.0	-8.7	88.6	9.6	133.7	11.3	6.9	4.9	-29.4	-28.7
Weapons and Nuclear	16.1	8.5	21.8	-0.2	-12.9	4.7	17.9	25.9	-4.4	8.7
Total	**44.6**	**10.4**	**-12.0**	**36.6**	**10.0**	**2.5**	**4.4**	**-6.3**	**3.1**	**13.2**

Source: BC Stats and Statistics Canada

Table 32. Balance of Trade in High Technology Goods with the Pacific Rim, by Commodity Group, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-0.8	-0.5	-0.3	-0.3	-0.3	-1.3	-2.2	-2.7	-2.0	-1.4	-1.6
Life Sciences	-3.5	-13.8	-14.1	-19.6	-16.1	-16.1	-22.1	-23.8	-32.5	-32.7	-31.5
Opto-Electronics	-16.2	-33.6	-32.5	-31.8	-39.3	-40.0	-37.7	-41.6	-54.6	-40.6	-49.7
Computers and Telecommunications	-264.4	-350.7	-362.0	-292.9	-422.3	-485.2	-514.0	-583.1	-620.8	-719.1	-828.9
Electronics	-48.2	-126.3	-177.6	-118.4	-187.4	-210.5	-181.0	-64.1	-51.2	-29.1	29.5
Computer Integrated Manufacturing	-14.7	-15.2	-19.5	-17.1	-17.5	-12.7	-15.6	-20.2	-16.7	-16.7	-21.5
Material Design	-0.7	-0.9	-2.2	-1.5	-1.4	-1.8	-8.7	-12.4	-11.4	-2.1	-1.7
Aerospace	-0.1	-1.3	7.6	-1.6	-0.7	-10.6	-11.7	-11.4	-14.4	2.5	-0.7
Weapons and Nuclear	-0.8	-1.0	-1.0	-0.9	-1.2	-1.3	-0.9	0.5	-2.1	-0.3	-1.3
Total	**-349.4**	**-543.2**	**-601.6**	**-484.2**	**-686.3**	**-779.5**	**-793.9**	**-758.9**	**-805.7**	**-839.5**	**-907.4**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within BC only).

Source: BC Stats and Statistics Canada

Table 33. Domestic Exports of High Technology Goods to Japan, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Life Sciences	3.1	2.1	3.9	1.7	1.2	0.9	1.5	2.3	0.6	0.5	0.8
Opto-Electronics	0.6	0.7	0.5	0.5	0.2	0.2	0.6	8.8	1.2	9.3	1.1
Computers and Telecommunications	5.6	6.9	8.0	13.5	15.2	5.5	1.9	16.5	6.2	2.6	3.1
Electronics	0.0	0.6	0.9	1.3	1.5	1.0	0.2	0.4	1.4	1.0	0.1
Computer Integrated Manufacturing	0.2	0.0	0.3	1.3	0.6	0.0	0.2	0.0	0.1	0.1	0.4
Material Design	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Aerospace	0.1	0.5	0.0	0.0	0.3	0.9	0.7	0.4	0.2	8.6	1.8
Weapons and Nuclear	0.0	0.0	0.0	0.3	0.3	0.0	0.1	1.9	0.0	0.0	0.0
Total	**9.6**	**10.8**	**13.6**	**18.7**	**19.3**	**8.6**	**5.2**	**30.4**	**9.7**	**22.0**	**7.3**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-	-	588.7	-100.0	-	-100.0	-	-100.0	-	-
Life Sciences	-30.1	81.6	-57.3	-30.0	-23.8	66.5	53.1	-75.7	-10.5	60.3
Opto-Electronics	17.0	-31.6	12.0	-56.3	-26.1	260.2	1343.6	-86.0	653.0	-88.5
Computers and Telecommunications	24.8	16.0	68.1	12.2	-63.6	-66.2	784.3	-62.6	-58.1	21.0
Electronics	1307.4	49.5	53.4	14.2	-34.0	-84.6	173.8	225.9	-31.2	-93.3
Computer Integrated Manufacturing	-93.2	1429.0	435.3	-52.3	-93.9	428.7	-99.7	9357.1	10.6	448.0
Material Design	-	-	-100.0	-	-	-100.0	-	-	-100.0	-
Aerospace	571.2	-92.4	-89.8	8435.7	199.2	-17.6	-50.0	-41.1	3770.8	-78.8
Weapons and Nuclear	47.7	89.2	790.8	-21.1	-95.3	1039.2	1247.7	-99.6	574.4	-0.9
Total	**13.3**	**25.5**	**37.6**	**2.9**	**-55.4**	**-39.5**	**483.0**	**-68.0**	**127.1**	**-66.6**

Source: BC Stats and Statistics Canada

Table 34. Imports of High Technology Goods from Japan, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.8	0.5	0.2	0.4	0.1	0.1	0.2	0.6	0.2	0.4	0.3
Life Sciences	6.7	11.0	11.4	10.7	10.1	11.3	14.3	14.6	17.1	17.3	18.6
Opto-Electronics	13.0	24.3	20.7	16.2	18.0	16.3	16.6	23.0	20.4	17.2	17.4
Computers and Telecommunications	136.8	139.9	149.8	144.4	198.8	204.5	192.6	178.8	164.6	167.0	154.3
Electronics	16.8	53.2	74.3	39.0	51.6	58.1	57.6	54.6	30.8	18.2	12.7
Computer Integrated Manufacturing	15.1	16.8	21.0	16.8	18.9	14.9	17.5	20.5	15.0	13.9	23.5
Material Design	0.9	1.2	2.1	1.3	1.3	1.5	7.0	7.9	7.5	1.2	1.0
Aerospace	0.6	0.5	0.6	3.0	4.0	12.4	14.3	15.3	15.4	10.6	7.4
Weapons and Nuclear	0.6	0.7	0.8	0.8	0.9	0.5	0.5	0.8	1.0	0.8	0.7
Total	**191.1**	**248.0**	**281.0**	**232.5**	**303.7**	**319.6**	**320.5**	**316.1**	**272.0**	**246.7**	**235.9**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-32.5	-62.4	80.1	-62.3	-43.8	235.6	123.0	-56.8	58.5	-15.0
Life Sciences	63.8	4.1	-6.4	-5.2	11.9	26.0	2.5	16.4	1.4	7.5
Opto-Electronics	87.1	-14.6	-21.9	11.1	-9.1	1.4	38.9	-11.1	-15.7	0.7
Computers and Telecommunications	2.2	7.1	-3.6	37.7	2.8	-5.8	-7.1	-8.0	1.5	-7.6
Electronics	217.0	39.7	-47.5	32.3	12.7	-1.0	-5.1	-43.6	-40.7	-30.2
Computer Integrated Manufacturing	11.3	25.1	-19.8	12.5	-21.3	17.3	17.5	-26.7	-7.4	68.7
Material Design	38.5	73.4	-40.0	-0.5	15.2	380.4	12.1	-5.2	-83.6	-19.7
Aerospace	-11.8	18.8	393.5	32.5	209.7	15.5	7.0	0.3	-31.1	-30.0
Weapons and Nuclear	27.6	8.4	-1.2	13.9	-41.6	-9.0	63.4	35.0	-23.7	-7.0
Total	**29.8**	**13.3**	**-17.2**	**30.6**	**5.2**	**0.3**	**-1.4**	**-14.0**	**-9.3**	**-4.3**

Source: BC Stats and Statistics Canada

Table 35. Balance of Trade in High Technology Goods with Japan, by Commodity Group, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-6.7	-11.0	-11.4	-10.7	-10.1	-11.3	-14.3	-14.6	-17.1	-17.3	-18.5
Life Sciences	-9.9	-21.9	-16.8	-14.5	-16.8	-15.4	-15.0	-20.6	-19.9	-16.5	-16.1
Opto-Electronics	-135.9	-139.1	-149.2	-143.6	-198.4	-204.3	-192.0	-170.0	-163.3	-157.5	-153.2
Computers and Telecommunications	-7.9	-45.8	-66.0	-21.8	-31.4	-52.4	-55.5	-38.0	-23.9	-15.2	-9.0
Electronics	-15.0	-16.1	-19.1	-13.9	-14.4	-8.4	-5.9	20.8	1.0	1.1	-2.7
Computer Integrated Manufacturing	-0.6	-1.2	-1.9	0.1	-0.6	-1.4	-6.8	-7.9	-7.4	-1.2	-0.6
Material Design	-0.6	-0.5	-0.6	-3.0	-4.0	-12.3	-14.3	-15.3	-15.3	-10.6	-7.4
Aerospace	-0.3	-0.1	8.3	-0.4	-0.2	1.4	0.6	-0.1	-0.6	7.8	1.2
Weapons and Nuclear	-0.5	-0.7	-0.7	-0.4	-0.6	-0.5	-0.3	1.2	-1.0	-0.7	-0.7
Total	**-177.7**	**-236.1**	**-256.9**	**-207.8**	**-275.9**	**-304.3**	**-303.3**	**-244.3**	**-246.7**	**-209.8**	**-206.6**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within BC only).

Source: BC Stats and Statistics Canada

Table 36. Domestic Exports of High Technology Goods to the European Union, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	0.1	0.1	1.0	0.0	0.1	1.3	0.1	0.0	0.0	0.1	0.3
Life Sciences	1.9	1.6	2.3	2.0	2.1	4.4	4.8	4.3	4.0	11.8	17.3
Opto-Electronics	2.5	2.1	3.2	2.1	5.4	7.1	8.7	17.3	24.4	3.4	3.0
Computers and Telecommunications	16.7	26.9	20.6	21.6	22.2	40.6	33.8	20.1	27.4	20.7	19.3
Electronics	0.3	1.7	1.2	0.4	1.1	1.2	0.7	0.8	1.1	0.4	0.2
Computer Integrated Manufacturing	6.9	0.9	0.9	0.9	1.2	0.7	1.1	1.4	0.9	1.1	2.1
Material Design	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	6.8	0.0	0.2
Aerospace	7.7	1.1	2.8	2.4	1.3	3.1	3.6	13.6	22.5	19.9	7.8
Weapons and Nuclear	0.3	0.1	0.9	0.2	0.0	0.3	1.0	2.5	0.3	0.8	0.3
Total	**36.3**	**34.7**	**32.9**	**29.6**	**33.4**	**58.5**	**53.7**	**60.2**	**87.5**	**58.1**	**50.6**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	20.3	1005.0	-98.4	312.2	1856.3	-94.9	-100.0	-	606.6	219.6
Life Sciences	-17.2	41.4	-13.0	7.2	107.5	9.5	-11.1	-5.7	194.1	46.9
Opto-Electronics	-14.0	49.0	-33.4	154.8	31.0	22.3	99.1	41.2	-86.2	-11.4
Computers and Telecommunications	61.1	-23.4	4.6	3.0	82.7	-16.6	-40.6	36.4	-24.5	-6.6
Electronics	508.4	-32.2	-66.4	177.3	6.7	-40.6	12.4	39.7	-63.6	-40.8
Computer Integrated Manufacturing	-86.5	-0.1	0.6	25.5	-39.6	51.9	31.8	-39.3	23.6	101.8
Material Design	2084.4	-96.8	-	-100.0	-	-	1364.7	2663.1	-99.7	944.6
Aerospace	-85.8	156.5	-15.3	-43.8	131.0	17.1	278.5	65.0	-11.6	-60.7
Weapons and Nuclear	-80.7	1627.4	-73.2	-91.8	1165.9	276.9	164.2	-86.4	136.8	-63.4
Total	**-4.5**	**-5.2**	**-9.9**	**12.8**	**75.3**	**-8.2**	**12.2**	**45.2**	**-33.6**	**-13.0**

1. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures do not include Slovenia.

Source: BC Stats and Statistics Canada

Table 37. Imports of High Technology Goods from the European Union, by Commodity Group, 1993-2003

Value ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	3.0	3.9	4.7	5.6	8.0	12.1	8.2	10.1	28.9	23.1	23.0
Life Sciences	41.4	46.4	54.5	61.2	76.4	82.9	94.4	116.9	133.0	142.9	166.4
Opto-Electronics	1.5	2.7	2.6	3.3	3.4	3.1	3.6	5.9	5.5	6.1	7.8
Computers and Telecommunications	56.0	70.3	66.0	50.7	69.6	85.8	114.3	190.5	104.6	97.5	89.8
Electronics	10.1	38.6	39.3	34.2	35.3	50.0	48.3	34.0	15.9	12.9	15.9
Computer Integrated Manufacturing	13.1	18.1	18.1	19.1	16.3	12.4	13.7	18.9	20.9	20.6	18.4
Material Design	0.7	0.6	1.2	1.5	1.3	2.6	4.3	12.8	15.0	2.5	2.8
Aerospace	63.9	73.2	63.9	121.7	292.8	244.8	375.8	260.1	446.9	434.3	228.1
Weapons and Nuclear	3.8	6.8	8.5	8.8	8.0	6.1	5.8	8.8	8.7	5.9	4.5
Total	**193.3**	**260.7**	**258.9**	**306.3**	**511.1**	**499.9**	**668.4**	**658.0**	**779.3**	**745.9**	**556.6**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	32.0	18.9	20.7	42.3	51.1	-31.8	22.4	185.9	-19.8	-0.7
Life Sciences	12.1	17.4	12.3	24.7	8.6	13.8	23.9	13.8	7.4	16.5
Opto-Electronics	84.2	-3.5	26.9	1.5	-9.4	17.8	63.3	-7.5	12.4	26.8
Computers and Telecommunications	25.6	-6.1	-23.2	37.1	23.3	33.2	66.7	-45.1	-6.8	-7.9
Electronics	282.8	1.9	-12.8	3.2	41.6	-3.4	-29.6	-53.3	-18.5	23.1
Computer Integrated Manufacturing	38.4	0.1	5.2	-14.5	-24.2	10.6	38.4	10.6	-1.5	-10.8
Material Design	-15.0	94.5	33.0	-17.9	110.7	62.9	195.5	17.4	-83.1	10.9
Aerospace	14.6	-12.7	90.5	140.6	-16.4	53.5	-30.8	71.8	-2.8	-47.5
Weapons and Nuclear	82.4	24.9	2.8	-8.7	-23.8	-6.0	52.5	-0.4	-32.4	-24.2
Total	**34.9**	**-0.7**	**18.3**	**66.9**	**-2.2**	**33.7**	**-1.6**	**18.4**	**-4.3**	**-25.4**

1. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures do not include Slovenia.

Source: BC Stats and Statistics Canada

Table 38. Balance of Trade in High Technology Goods with the European Union, by Commodity Group, 1993-2003

Balance ($000,000)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Biotechnology	-2.8	-3.8	-3.7	-5.6	-7.9	-10.8	-8.2	-10.1	-28.8	-23.0	-22.7
Life Sciences	-39.5	-44.6	-52.2	-59.2	-74.1	-78.4	-89.5	-112.5	-129.0	-130.8	-149.0
Opto-Electronics	1.2	-0.6	0.6	-1.0	2.2	4.0	5.1	11.7	19.3	-2.7	-4.5
Computers and Telecommunications	-36.3	-41.3	-43.6	-27.2	-45.3	-43.5	-77.0	-162.7	-73.2	-73.2	-65.0
Electronics	-9.7	-36.8	-37.5	-31.6	-28.6	-43.0	-35.2	1.0	3.8	-5.4	6.0
Computer Integrated Manufacturing	-6.2	-17.2	-17.2	-18.0	-15.2	-11.7	-12.6	-17.5	-20.0	-19.5	-16.2
Material Design	-0.7	-0.4	-1.1	-1.5	-1.3	-2.6	-4.3	-12.5	-8.1	-2.5	-2.5
Aerospace	-52.4	-70.8	-59.4	-118.6	-290.6	-240.2	-369.9	-237.8	-416.8	-402.1	-213.1
Weapons and Nuclear	-3.4	-6.7	-7.5	-8.5	-7.9	-5.8	-4.6	-5.9	-8.3	-5.0	-3.8
Total	**-149.8**	**-222.3**	**-221.6**	**-271.2**	**-468.7**	**-432.0**	**-596.1**	**-546.4**	**-661.4**	**-664.5**	**-470.7**

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced *within Canada only (in the case of tables in this report, within BC only).*

1. Prior to 1995, data for Slovenia were still included in the former Yugoslavia, therefore 1993 and 1994 figures do not include Slovenia.

Source: BC Stats and Statistics Canada

Table 39. Exports of High Technology Services,[1] 1993-2003

Value ($ millions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Services Exports											
Computer Services	163	163	208	208	237	456	686	906	956	822	993
Engineering Services	102	106	138	174	443	222	168	103	137	112	na
Total	**265**	**269**	**346**	**382**	**680**	**678**	**854**	**1,009**	**1,093**	**934**	**na**

% change from previous year

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
High Technology Services Exports											
Computer Services Exports		0.0	27.6	0.0	13.9	92.4	50.5	32.0	5.5	-14.0	20.8
Engineering Services		3.4	30.6	25.7	154.7	-50.0	-24.1	-38.9	33.1	-18.2	na
Total		**1.3**	**28.8**	**10.3**	**78.0**	**-0.3**	**26.1**	**18.1**	**8.3**	**-14.5**	**na**

1. Based on surveyed firms only.
"na" denotes not yet available

Source: Statistics Canada

Table 40. Domestic Exports of High Technology Goods by Province, 1993-2003

Value ($ millions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
British Columbia	450.3	390.7	406.8	450.6	581.4	769.2	840.1	923.1	748.1	684.6	628.5
Alberta	439.4	659.9	918.8	1,386.1	1,238.4	1,540.9	1,915.6	4,375.7	2,439.0	1,889.6	1,189.0
Ontario	6,241.3	8,676.6	10,891.6	10,189.7	10,899.2	11,782.7	12,338.3	15,186.1	13,512.8	10,282.4	8,459.0
Quebec	5,874.5	6,174.6	7,663.7	9,035.0	9,801.7	11,860.1	13,835.2	20,677.2	16,948.2	14,496.9	14,270.9
Canada	**13,528.4**	**16,416.0**	**20,288.2**	**21,643.7**	**23,229.3**	**26,829.2**	**29,854.5**	**42,221.3**	**34,594.9**	**28,012.8**	**25,194.1**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
British Columbia	-13.2	4.1	10.8	29.0	32.3	9.2	9.9	-19.0	-8.5	-8.2
Alberta	50.2	39.2	50.9	-10.7	24.4	24.3	128.4	-44.3	-22.5	-37.1
Ontario	39.0	25.5	-6.4	7.0	8.1	4.7	23.1	-11.0	-23.9	-17.7
Quebec	5.1	24.1	17.9	8.5	21.0	16.7	49.5	-18.0	-14.5	-1.6
Canada	**21.3**	**23.6**	**6.7**	**7.3**	**15.5**	**11.3**	**41.4**	**-18.1**	**-19.0**	**-10.1**

High Technology Share of Total Domestic Exports (%)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
British Columbia	2.4	1.7	1.5	1.7	2.2	3.0	2.9	2.7	2.4	2.4	2.2
Alberta	2.2	2.9	3.4	4.4	3.7	5.0	5.5	7.9	4.3	3.9	2.1
Ontario	7.0	8.1	8.9	8.0	7.8	7.6	7.0	8.2	7.6	5.7	5.0
Quebec	18.3	16.0	16.9	19.3	19.5	21.4	23.2	29.0	24.9	22.1	23.4
Canada	7.6	7.7	8.2	8.3	8.3	9.0	9.0	10.9	9.2	7.7	7.1

Note that high technology exports for Canada, Alberta, Ontario and Quebec are based on high tech definitions developed for British Columbia. If these definitions were derived specifically for any of those regions, they might differ slightly.

Source: BC Stats and Statistics Canada

Table 41. Imports of High Technology Goods, Canada and BC, 1993-2003

Value ($ millions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
British Columbia	1,930.0	2,687.0	2,757.2	2,842.9	3,658.8	3,978.1	4,249.3	4,475.0	4,480.6	4,078.8	3,759.2
Canada	**21,199.8**	**26,972.8**	**32,863.0**	**34,008.4**	**40,106.6**	**42,519.1**	**48,284.9**	**57,512.4**	**50,399.2**	**44,446.4**	**40,925.0**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
British Columbia	39.2	2.6	3.1	28.7	8.7	6.8	5.3	0.1	-9.0	-7.8
Canada	**27.2**	**21.8**	**3.5**	**17.9**	**6.0**	**13.6**	**19.1**	**-12.4**	**-11.8**	**-7.9**

Note that high technology imports for Canada are based on high tech definitions developed for British Columbia. If these definitions were derived specifically for any of those regions, they might differ slightly.

Source: BC Stats and Statistics Canada

Table 42. United States High Technology Commodity Trade, 1993-2003

Value ($US millions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Domestic Exports	97,950.2	84,135.5	120,668.2	133,241.6	157,958.2	168,296.1	178,519.9	197,109.5	172,412.2	153,273.5	151,535.4
Re-Exports	10,461.1	12,328.4	17,504.0	19,280.1	19,637.3	18,256.3	21,488.0	30,051.5	27,694.6	25,353.8	28,251.2
Imports	79,575.1	93,854.8	124,675.6	129,265.8	145,055.5	156,528.2	180,646.3	222,146.4	195,265.2	196,100.1	207,195.8
Balance of Trade	**28,836.1**	**2,609.1**	**13,496.5**	**23,256.0**	**32,539.9**	**30,024.2**	**19,361.5**	**5,014.6**	**4,841.5**	**-17,472.8**	**-27,409.3**

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Domestic Exports	-14.1	43.4	10.4	18.6	6.5	6.1	10.4	-12.5	-11.1	-1.1
Re-Exports	17.8	42.0	10.1	1.9	-7.0	17.7	39.9	-7.8	-8.5	11.4
Imports	17.9	32.8	3.7	12.2	7.9	15.4	23.0	-12.1	0.4	5.7
Balance of Trade	**-91.0**	**417.3**	**72.3**	**39.9**	**-7.7**	**-35.5**	**-74.1**	**-3.5**	**-460.9**	**56.9**

Source: BC Stats and US Department of Commerce

Table 43. High Technology Trade Comparison: United States vs. Canada and BC (in Canadian $), 1993-2003

Value ($Cdn millions)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Domestic Exports											
United States*	126,364.3	114,901.7	165,610.4	181,677.9	218,708.6	249,668.2	265,227.9	292,785.2	267,038.9	240,691.9	212,303.3
British Columbia	450.3	390.7	606.8	450.6	581.4	769.2	840.1	923.1	748.1	684.6	628.5
Canada	13,528.4	16,416.0	20,288.2	21,643.7	23,229.3	26,829.2	29,854.5	42,221.3	34,594.9	28,012.8	25,194.1
Imports											
United States*	102,658.9	128,175.0	171,110.5	176,256.7	200,843.6	232,210.4	268,387.2	329,975.0	302,434.6	307,944.4	290,284.5
British Columbia	1,930.0	2,687.0	2,757.2	2,842.9	3,658.8	3,978.1	4,249.3	4,475.0	4,480.6	4,078.8	3,759.2
Canada	21,199.8	26,972.8	32,863.0	34,008.4	40,106.6	42,519.1	48,284.9	57,512.4	50,399.2	44,446.4	40,925.0

% change from previous year

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Domestic Exports										
United States*	-9.1	44.1	9.7	20.4	14.2	6.2	10.4	-8.8	-9.9	-11.8
British Columbia	-13.2	4.1	10.8	29.0	32.3	9.2	9.9	-19.0	-8.5	-8.2
Canada	21.3	23.6	6.7	7.3	15.5	11.3	41.4	-18.1	-19.0	-10.1
Imports										
United States*	24.9	33.5	3.0	13.9	15.6	15.6	22.9	-8.3	1.8	-5.7
British Columbia	39.2	2.6	3.1	28.7	8.7	6.8	5.3	0.1	-9.0	-7.8
Canada	27.2	21.8	3.5	17.9	6.0	13.6	19.1	-12.4	-11.8	-7.9

* Converted from US dollars using an average annual exchange rate

Source: BC Stats, Statistics Canada and US Department of Commerce

Appendix A:
Defining the High Technology Sector

How was the sector definition arrived at?

In 1995, BC Stats and the Science and Technology Division of the Ministry of Employment and Investment developed a definition of the high technology sector that focuses on standard industries that produce high technology goods and services as their ultimate outputs. The definition looked at the high tech outputs of various standard industries (industries defined in the Canadian Standard Industrial Classification–SIC), their level of research activity, their representation in existing lists of high tech companies, and the opinions of an expert panel drawn from government, university, and the private sector.[20] Data compiled under the North American Industry Classification System (NAICS) is now available for the industries viewed as high technology and the SIC data series have been discontinued. The switchover to the new classification system has allowed us to revisit the definition and update the list of industries that are deemed "high technology."

Using an approach that conforms to the industrial structure upon which Statistics Canada's data are compiled, it is possible to take advantage of the impressive array of data already collected by the national statistical agency and to create time series of data values.

Are all high tech companies included?

It is recognized that there are some drawbacks to the industry-based definition employed here. The first is that the NAICS does not fully recognize industries of the "new economy." As a result, new products and services are often grouped in an industry that primarily produces similar but distinctly different products and services.

Second, it is difficult to capture the full breadth of high technology or knowledge-intensive activity in the economy through NAICS-based definitions. Innovation is not unique to a specific group of industries, but can be found throughout the whole economy. Some firms on the "leading edge" will be missed if they are classified in

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[20] The complete methodology is presented in Lawrance, J. and Miller, S. *Defining the British Columbia High Technology/Knowledge Sector*. (1996). BC Stats, Ministry of Government Services, and Ministry of Employment and Investment, Government of British Columbia.

Available on-line at *http://www.bcstats.gov.bc.ca/data/bus_stat/busind/hi_tech.htm*

industries that, in aggregate, fail to show high tech characteristics. On the other hand, it is impossible to remove those firms in the industries in the sector that lag behind the industry norm.

The industries included in the definition adopted for this profile represent the core of the high technology sector. While it is certainly true that examples of creativity and innovation can be found in every industry, this definition, with its industry focus, includes only those industries where high technology activity is concentrated.

Exactly which industries are included?

The table below lists the industries that are defined, for the purpose of this report, to constitute the high technology sector.

Industries in the High Technology Sector

NAICS	Industry
Manufacturing Industries	
325189	Other Inorganic Chemicals
325410	Pharmaceutical and Medicine
333310	Commercial and Service Industry
334110	Computer and Peripheral
334210	Telephone Apparatus
334220	Radio, Television Broadcasting & Wireless Communications Equipment
334290	Other Communications Equipment
334310	Audio and Video Equipment
334410	Semiconductor and Other Electronic Components
334511	Navigational and Guidance Instruments
334512	Measuring, Medical and Controlling Devices
334610	Manufacturing and Reproducing Magnetic and Optical Media
335315	Switchgear and Switchboard, and Relay and Industrial Control Apparatus
335920	Communication and Energy Wire and Cable
335990	All Other Electrical Equipment and Component
336410	Aerospace Products and Parts
339110	Medical Equipment and Supplies
Service Industries	
511210	Software Publishers
516110	Internet Publishing and Broadcasting
518210	Data Processing, Hosting and Related
541330	Engineering
541510	Computer Systems Design and Related

Note:
For the purposes of this report, the manufacturing NAICS industries are grouped together as "Manufacturing." Within this, details are reported for Chemicals (NAICS 325189 plus 325410), Aerospace and Medical Equipment, with the remaining industries covered under "Computer and Other Electronics." For services, details are reported for Engineering and Computer Systems Design and Related and NAICS 511210, 516110 and 518210 are grouped into a category called "Information services."

Appendix B:
Defining High Technology Commodities

Defining high technology commodities

Developing a definitive list of what commodities should be considered high technology is a difficult exercise. Leading technologies are continually evolving and what is considered high technology today may be classified as low tech tomorrow. As a result, the definition of high technology commodities must necessarily change over time. This means that data regarding high technology trade from 1993 may contain commodities that are no longer included in the 2003 definition. However, this does not mean that this data cannot be compared over time. It is still valid to look at growth rates over that period as long as it is clear that the rates represent growth in the changing definition of high technology, rather than a static basket of goods.[21]

The commodity list used by BC Stats to define high technology goods is based on the US Bureau of the Census' advanced technology products (ATP) list.[22] The list of American commodity codes was matched against the equivalent Canadian codes. In many cases the codes matched exactly and no further effort needed to be expended. However, in other cases there was not an exact match, particularly for exports, which are coded to only eight digits. For these commodity groups, further analysis was undertaken using available data from the US Bureau of the Census and Statistics Canada to determine whether or not the majority of these codes were high technology (as defined by the ATP list). If it was judged that this was not the case, the commodity was excluded from the high tech definition. While this may result in some high technology products being excluded from the definition, it should be balanced to some extent by those commodity classifications that, although they are mainly high technology, still include some "low tech" goods. Since

[21] One technical limitation that may cause difficulty in temporal comparisons is when there are changes to the definition of Harmonized System codes. When this occurs, there may be a resulting unintended change to the high technology commodity definition. This is due to the fact that the code may now include or exclude commodities that it did not previously, such that these goods can no longer be separated out (or perhaps can be more finely defined, so that low technology commodities that previously had to be included can now be expunged from the definition). However, these changes are usually small and should not have a significant impact on the data.

[22] For a discussion of the development and content of this list, see: McGuckin, R. H., Abbott, T. A., Herrick, P. and Norfolk, L. (1991). *Measuring Advanced-Technology Products Trade: A New Approach.* US Bureau of the Census.

the ATP list itself is defined using classification codes, this kind of trade-off is already present in the definition. No exact measure of high technology trade is possible to achieve since high technology is subjective to begin with, but this definition should be in line with what most people would agree is high technology.

Note that a commodity need not be produced by one of the industries included in the industry-based high technology definition in order to be considered a high technology product. Some industries not included in the high tech definition, because they mainly manufacture low technology goods, may also manufacture some high technology products. Conversely, it is possible for those industries classified as high technology to also manufacture some products that are considered low tech.

Calculating BC consumed imports

At this time, Statistics Canada does not produce data on imports by province of consumption, rather, only by province of clearance. An estimate of BC consumed imports was derived using the consumption of Canadian imports of those commodities by the BC economy and applying this ratio to total Canadian imports.

Data source

Data for trade in goods are supplied by Statistics Canada and are provided through the Trade Research and Inquiry Package (TRIP) computer reporting system at BC Stats. TRIP offers user-defined tabulations of export or import statistics for British Columbia, Canada, the United States and other countries. Tabulations can include information on commodities, countries, US states, years, months, mode of transport, etc.

Commodity groups

The US Bureau of the Census has defined ten fields involving advanced or high technology commodities. Each field represents a large number of products and processes that are considered to be on the leading edge. These fields have been used to classify exports and imports in this report.

Aerospace

Technological developments in this field include advances that allow planes to fly further, faster, higher, to use less fuel and to have quieter engines. Many of the advances have been adapted to military applications, such as vertical take-off aircraft and aircraft that require shorter distances for takeoff and landings.

Biotechnology

Biotechnology covers recent developments in recombinant deoxyribonucleic acid (DNA) research and genetic engineering. Obvious examples include drugs, enzymes and other therapeutic items. Common applications include agricultural production and the use of microorganisms for the production of drugs and other complex molecules.

Computer and Telecommunications

This field covers technological advances affecting both computers and telecommunications hardware products. The primary advances in this field are in developing hardware that can process information more quickly. Important breakthroughs are expected in the areas of artificial intelligence and parallel processing.

Computer Integrated Manufacturing

This field includes developments in robotics and numerically controlled (NC) machines. These products have a significant impact on industrial automation. Robots and NC machines perform increasingly sophisticated operations through developments in sensory and visual capabilities of machines. With these breakthroughs, the manufacturing processes have increased in flexibility and require less human intervention to operate and maintain production machinery. Many of the new automation technologies are made possible because of breakthroughs in the application and development of faster, smaller components.

Electronics

The miniaturization of electronic components is the most important recent technological advance in the field of electronics. Some technologies included are integrated circuits, semiconductors, such as transistors and diodes, as well as new developments in surface mounting of electronic components such as capacitors and resistors.

Life Sciences (Medical)

This field encompasses the application of scientific advances to medical sciences. Recent advances such as nuclear resonance imaging, echo cardio-graphs and total-patient monitoring systems are examples of products developed from recent technological advances in this field. Also, recent increases in the strength of materials and reductions in their weight have led to improved internally implemented fixation devices and prostheses.

Materials Design

Materials design includes the newest methods of production for products that already exist in the market as well as the development of new products. Recent examples of technological advancements include high temperature superconductors, advanced polymers that expand the areas of plastic use and new ultra clear glass that allows fibre optic cable to be used for long distance communication.

Nuclear Technology

This field covers developments in nuclear power production and primary nuclear reactors. It includes newly designed reactor components that improve the safety and efficiency of nuclear power plants. It also includes developments in the creation and packaging of nuclear fuel, the application of atomic physics to medical and other areas of science.

Opto-Electronics

Opto-electronics is generally defined as the expanded development and application of the laser. Also included are recent advances in photoelectric cells and diodes, photographic and other imaging equipment, and fibre-optic cables.

Weapons

This field covers all advanced methods used for the development, guidance, and control of weapons intended for national or personal protection and deterrence. Many of the developments in this area are the result of breakthroughs in computers and telecommunications as well as aerospace technologies.